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ABSTRACT

Designed for use by educators trying to establish or find networks providing access to educational computing information and avenues for the exchange of ideas and experiences, this guide brings together and describes several different types of resources to provide a base from which other contacts can be made. The resources listed focus on instructional computing in classrooms and instructional media centers; they include journal articles, ERIC documents, books, instructional programs, computer organizations, computer journals, and Department of Public Instruction (DPI) consultants. Many of the programs described were funded as ESEA Title IV projects and others were recommended by DPI subject consultants; except for those programs which are part of the National Diffusion Network, they have not undergone a formal validation process. (LMM)

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Computers and the Classroom

A Resource Guide

Prepared by
The Wisconsin Dissemination Project (WDP)

In Cooperation With
CEMREL
and
The Wisconsin Center for Education Research
School of Education, UW-Madison

October 1982

IR010679

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Bulletin No. 3109

Introduction

Computer technology is changing the face of education at every age level and in all disciplines. The advent of the microcomputer has brought instructional computing within the reach of most school districts and many homes. In 1981, it was reported that 71 percent of Wisconsin school districts were using microcomputers for instruction.

The rapid growth of instructional computing has brought about an exploding volume of information, research, and experimentation. It has also created a need among educators for access to educational computing information and avenues for exchange of ideas and experiences. Because new computer publications, programs, curricula, and organizations are appearing every month, it is especially critical that educators be able to establish or participate in such information networks.

The Department of Public Instruction, in cooperation with CEMREL, and with assistance from the Wisconsin Center for Education Research, has developed **Computers and the Classroom** to serve as a guide for educators trying to establish or to find these information networks. While computers in schools are used for administrative as well as instructional purposes, this guide concentrates on instructional computing whether in classrooms or IMCs. **Computers and the Classroom** brings together several types of resources: 1) journal articles, 2) ERIC documents, 3) books, 4) instructional programs, 5) computer organizations, 6) computer journals, and 7) DPI consultants. Many of the instructional programs which are included were funded as ESEA Title IV projects; others were recommended by subject consultants at DPI. Except for those programs which are part of the National Diffusion Network, these programs have not undergone a formal validation process. The resources described in this guide are not exhaustive, but they are intended to provide a base from which other contacts can be made.

The Department of Public Instruction has made a commitment to assist Wisconsin school districts in using computer technology for the educational benefit of all students. This commitment will be fulfilled only if we work with one another. The staff of the Wisconsin Dissemination Project (WDP), which developed this guide, would like to thank those school districts which contributed to the guide's development. WDP would like to have additional information from Wisconsin school districts about instructional computing programs. The WDP is building and maintaining an online computer file of educational programs and organizations in Wisconsin similar to those included in this guide. This file is used to help answer information requests from Wisconsin schools. If you have information that should be considered for this file, contact the WDP office: Carolyn Folke, 125 South Webster Street, P.O. Box 7841, Madison, WI 53707, (608) 267-9236. In addition, there is an evaluation form following this introduction. I hope that you will return this evaluation to help us with similar projects in the future.

Working together we can explore the many possibilities for improving education through instructional computing.

Herbert J. Grover

Herbert J. Grover
State Superintendent

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION
EVALUATION OF *COMPUTERS AND THE CLASSROOM*
PI-Q82-15

Completion and submittal of this form is voluntary.

The Department of Public Instruction does not discriminate on the basis of race, sex, age, religion, handicap, or national origin.

INSTRUCTIONS: The Department of Public Instruction is interested in continuing to provide necessary support for instructional computing. Input from LEAs to provide guidance in the development of future resources would be appreciated. Please share your suggestions by completing this form and returning to:

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION
WISCONSIN DISSEMINATION PROJECT
125 SOUTH WEBSTER STREET
P. O. BOX 7841
MADISON, WI 53707

RESOURCE GUIDE EVALUATION

1. Usefulness *Rank according to usefulness, the types of resources included in this guide. Use "1" for the most useful, "7" for the least useful.*

_________ journal article citations
_________ ERIC document abstracts
_________ book citations
_________ program descriptions
_________ magazine descriptions
_________ DPI consultant
_________ organization descriptions.

2. Guide Utilization *Indicate how you or your school made use of this guide. Check all that apply.*

☐ Curriculum development
☐ Proposal development
☐ Computer Equipment Purchasing Decision
☐ Software Evaluation/Selection
☐ Teacher Inservice
☐ Other *Specify* ____________________

3. Format of Guide *Was the format of this guide easy to use? Check appropriate response.*

☐ Very ☐ Above Average ☐ Average ☐ Below Average ☐ Minimal

Comments: ____________________

4. *If you know of a program, publication or organization which should be included in our computerized file,* list the name(s) of the resource(s) and provide the name and address of the contact person(s):

5. Suggested topics for future guides:

6. Comments/Suggestions for improving future guides:

Optional Name of Person Completing Form	School District

How To Use *Computers and the Classroom*

Computers and the Classroom brings together several types of resources related to instructional computing: journal articles, ERIC documents, books, program descriptions, organizations, magazine descriptions and DPI consultants. These resources have been selected to provide information about instructional computing and a variety of applications.

You will notice, in examining the Table of Contents, that **Computers and the Classroom** has been divided into three sections: Instructional Issues and Applications, Curricular Areas, and General Resources. The first two sections are further subdivided and contain a combination of print resources and program descriptions. To get copies of the print resources or learn more about the programs use the following procedures.

ERIC Documents - Copies of each of the documents described can be obtained from the source(s) indicated. If the document is available on microfiche it can be borrowed for one month from the DPI Library. Be sure to include the six-digit number which begins with the letters "ED." For example, ED213393. Send requests to: DPI Library 125 South Webster Street, P.O. Box 7841, Madison, WI 53707. If the document is available in hard copy it can be purchased from the source listed.

Books - These must be borrowed from a public or school library, obtained through interlibrary loan, or purchased directly from a bookstore or the publisher.

Journal Articles - These must be obtained from a public or school library. If the library does not subscribe to the journal, request a copy of the article through interlibrary loan.

Program Descriptions - Each entry includes the name, address and telephone number of a contact person. To obtain more information, contact this person directly.

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ERIC Documents

The following documents may be obtained from the source(s) indicated. *See "How to Use Computers and the Classroom" for more information.*

Title	**Microcomputers in Today's Schools: An Administrators' Handbook.**
Orig. Inst.	Northwest Regional Educational Lab., Portland, OR.
Date/Pages	Nov 81; 258 p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED213393**

Abstract

This handbook contains journal articles, reports, and documents collected for the purpose of providing school administrators with current information on computer applications in public schools. The first part of the handbook includes reports on computer oriented programs in the schools of Alaska and Oregon, procedures for assessing computer needs, recommendations for evaluating and purchasing computer hardware, and some model applications of computers for teaching the handicapped and/or in basic skills programs. The second part provides profiles of schools and school districts currently using microcomputers as part of their instructional program. Each profile presents a description of a specific computer project, including hardware, software, personnel, costs and a contact person and phone number for arranging on-site visits. Additional sources of information on computer applications in educational settings are identified in bibliographies accompanying many of the reports and in a resource list at the end of the handbook. (MER)

Author(s)	Moursund, David
Title	**School Administrator's Introduction to Instructional Use of Computers.**
Orig. Inst.	International Council for Computers in Education, Eugene, Oreg.
Date/Pages	80 ; 48p.
Source(s)	
Hard Copy	International Council for Computers in Education, c/o Dept. of Computer and Information Science, University of Oregon, Eugene, OR 97403 ($2.50 prepaid; quantity discounts).

Abstract

To help educational administrators and policymakers use computers effectively, this handbook provides an overview of computers and their role in education. Using a question-and-answer format, the author first defines computers, interactive computing, computer hardware and software, and programing languages. The same format is followed in the subsequent discussions of the kinds of problems computers solve; the instructional, administrative, and research uses of computers; computers' impact on curricula; computer-assisted instruction and other instructional uses; computer literacy; educational uses for calculators; and the barriers, goals, and costs involved in the instructional use of computers and calculators. A brief guide to periodical literature is added to help educators learn more about computers. A glossary at the end defines terms frequently used in computer education. (Author/RW)

Author(s)	Neufeld, Helen H.
Title	**Reading, Writing and Algorithms: Computer Literacy in the Schools.**
Date/Pages	Jan 82 ; 10p.

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Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED211959**
Abstract

Given the state of the art of computing in 1982, it is not necessary to know a computer language to use a computer. Three aspects of the current state of computing make it mandatory that educators from elementary through postsecondary levels rapidly incorporate this skill into the curriculum: (1) computers have permeated society--they are used in virtually every business; (2) they have begun to compete with schools for the attention of young people, as evidenced by the popularity of video games; and (3) they have potential as teaching tools. If this potential could be utilized, then the problem of the need for computing skills could be addressed early in the educational process, and educators might meet the competition of computer games. Since the individual teacher need not write computer programs, all that remains for educators is to obtain the computer and the programs and find someone who will demonstrate their use. Two invaluable resource persons are present in almost every community--the computer-knowledgeable parent, and the computer "whiz kid" from the local high school or university. The parent can give advice on obtaining computer hardware and the student can help "debug" commercial programs, as well as incorporate the instructor's ideas into programs written by others. (HOD)

Title **Microcomputer Directory: Applications in Educational Settings.**
Orig. Inst. Harvard Univ., Cambridge, Mass. Graduate School of Education.
Date/Pages 81 ; 60p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED211117**
Hard Copy Monroe C. Gutman Library, Harvard Graduate School of Education, 6 Appian Way, Cambridge, MA 02138 ($5.00).
Abstract

This directory is a guide to schools with microcomputer programs. The selection of programs to be listed was accomplished by telephoning every ESEA Title IV-C director in the country to identify current or on-going IV-C projects in his/her state. If there were no existing IV-C efforts, minigrants for micros or Title IV-B activities were included. Lacking the availability of Title IV information, Title I offices were contacted. Educational practitioners also contributed information about interesting applications. Finally, computerized searches were conducted to locate recent information on specific programs. The preponderance of programs described are from elementary secondary sites; they range from individual classrooms to system or state-wide efforts. However, attention is also directed to alternative learning sites such as hospitals, prisons, and museums. (Author/LLS)

Author(s) Lidtke, Doris K.
Title **Securing Teacher Acceptance of Technology.**
Date/Pages Jan 81 ; 22p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208871**
Abstract

This paper offers an historical perspective as to why teachers may be reluctant to accept new technologies, and what might persuade them to use computers in their classrooms. The analysis also suggests some methods for minimizing the inhibiting factors and maximizing the acceptance of computers in elementary and secondary school settings. Explanations for the failure to use technologies are traced to: (1) little concrete evidence of the effectiveness of the use of these media; (2) teacher resistance to change; (3) lack of training in the use of equipment; (4) lack of adequate hardware, software, and courseware; (5) the need to change teaching style to use the technology; and (6) the fact that extra time and preparation are required to use these technologies. Suggestions for overcoming these inhibiting factors include providing a specialist to consult with teachers on computer applications in the classroom, conducting training sessions for teachers on computers, and rewarding those teachers who are innovative in adapting computers to their instructional programs. Four examples of successful computer programs in elementary and secondary school environments are cited. Twenty-two references are listed. (MER)

Author(s) Taylor, Robert, Ed.
Title **The Computer in the School: Tutor, Tool, Tutee.**
Date/Pages 80 ; 274p.

Source(s)
Hard Copy Teachers College Press, 81 Adams Drive, Totowa, NJ 07512 (Paper, $14.95).
Abstract

Nineteen essays by five pioneers in the field of computers in education are presented in this volume. The essays provide a foundation for understanding the basic issues involved in using computers in schools, the teacher's role in helping the student make full use of computing, and the general limitations of computer use. A framework is presented for considering computers in education which identifies three functions of a computer: as a tutor, as a tool, or as a student (tutee). A computer's tutor function requires expert programming so that flexible computer-assisted instruction can be provided to students. A computer's tool function requires only that some useful capability (such as statistical analysis) be programmed into the computer. In the student or tutee function of a computer, a human tutor teaches the computer, thereby enhancing human learning and reducing software costs. Other topics of discussion include interactive learning, heuristic strategies, pre- and post-college computer education, teaching children to think, mathematics education, the future of computers in education, and teachers and computer-assisted instruction. (Author/DB)

Author(s) Harris, Diana, Ed.; Nelson-Heern, Laurie, Ed.
Title **Proceedings of the NECC 1981. National Educational Computing Conference (3rd, North Texas State University, Denton, Texas, June 17-19, 1981).**
Orig. Inst. Iowa Univ., Iowa City. Weeg Computing Center.
Date/Pages Jun 81 ; 361p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207526**
Hard Copy Computer Science Department, University of Iowa, Iowa City, IA 52242 ($10.00).
Abstract

This volume includes the texts of more than 50 papers presented at a conference which was organized to present in one forum all major work regarding computers in education in the United States, as well as abstracts of the special sessions, tutorials, and project presentations which took place at the conference. Among the topics covered in these materials are the following: simulations, videodisc project funding, administration, computer literacy, business, higher education, computer science, humanities, science, social science, preschool/elementary applications, graphics, mathematics, engineering, and health education. (Author/LLS)

Author(s) Watson, Nancy A., Ed.
Title **Microcomputers in Education: Getting Started. Conference Proceedings (Tempe, Arizona, January 16-17, 1981).**
Orig. Inst. Arizona State Univ., Tempe. Coll. of Education.
Date/Pages Jan 81 ; 349p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205216**
Hard Copy Gary Bitter, Arizona State University, Payne 203, Tempe, AZ 85281 ($10.00).
Abstract

Included in these proceedings are brief write-ups of many of the 55 presentations given at a conference for elementary and secondary teachers and administrators. The strands of the conference emphasized using microcomputer technology in elementary education, secondary education, special education, and administration. General interest sessions were also held. The keynote address entitled "The Challenge of the 80's: Computer Literacy," was given by Dr. Andrew Molnar of the National Science Foundation. Sessions focused on: computer literacy, computer assisted instruction in the basic skill areas at elementary and secondary levels, applications for microcomputers in special education and gifted education, evaluating microcomputer systems, hardware and software comparisons, career education and guidance information systems, instructional techniques for teaching BASIC programing language to elementary and secondary students, designing computer proposals for federal funding, and microcomputers in the Fine Arts areas. Appended is a bibliography of BASIC computer books and lists of computer journals, film companies producing films about computers, microcomputer manufacturers, and software vendors. (Author/LLS)

Author(s) Sheingold, Karen
Title **Issues Related to the Implementation of Computer Technology in Schools: A Cross-Sectional Study. Children's Electronic Laboratory Memo No. 1.**
Orig. Inst. Bank Street Coll. of Education, New York, N.Y.
Date/Pages 19 Feb 81 ; 19p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205165**
Abstract

Three school systems were examined to assess issues pertinent to microcomputer innovations in the schools, and to determine whether a revolution in education was taking place because of this new technology. A case study approach was used in this exploratory analysis in order to collect information from four levels: students, administrators, technology specialists, and the community. The three sites chosen for the study were selected on the basis of the diversity of their geographic location and the type of school population served. It was discovered that school systems tend to adapt microcomputer use to their own goals, needs, and ways of operating. Although several common trends were observed among the systems studied, it was concluded that microcomputers on their own will not promote any particular outcomes, and their impact will depend largely on the educational context in which they are embedded. A paucity of research literature on the educational and developmental consequences for children using microcomputers is indicated. (MER)

Author(s) Copple, Christine
Title **Computers in the Secondary Mathematics Curriculum.**
Date/Pages Jun 81 ; 34p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED204144**
Abstract

The purpose of this document is to increase the educator's awareness of the present situation in computers in the school. Although the study was directed at computers in the secondary mathematics curriculum, of necessity much of the material dealt with broader aspects of the computer in all secondary curricula. The first section of this report consists of a glossary of commonly used computer-oriented terms. The bulk of the document is a series of annotations of some of the current literature on computers, the first portion focusing on facts, figures, poritions, and attitudes regarding computer use in the secondary curriculum. The second set of annotations deals with computer uses in the mathematics classroom, and is subdivided into the following areas of concentration: (1) the teaching of computer literacy; (2) the teaching of computer science; and (3) computer-assisted instruction. The final annotation section focuses on the special aspects of microcomputers. The document concludes with a summary, some general conclusions, and two specific recommendations regarding computer use at the secondary level. (MP)

Author(s) Anderson, Cheryl A.
Title **Microcomputers in Education.**
Date/Pages Oct 80 ; 22p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED198812**
Abstract

Designed to answer basic questions educators have about microcomputer hardware and software and their applications in teaching, this paper describes the revolution in computer technology that has resulted from the development of the microchip processor and provides information on the major computer components; i.e.; input, central processing unit, memory, auxiliary storage, and output. The cost and timesaving advantages of a microcomputer purchase are discussed, as well as the instructional advantages, and the various types of teaching strategies used with a computer are explained. The paper also includes a discussion of hardware selection criteria, software selection sources, and organizations which can provide the novice computer user with helpful information. (LLS)

Author(s) Tinker, Robert; Naiman, Adeline
Title **Microcomputers in Education: Applications of Microprocessors in the Schools. A Report to the Northeast Regional Education Planning Project.**
Orig. Inst. Technical Education Research Center, Cambridge, Mass.
Date/Pages 15 May 80 ; 100p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED196455**
Hard Copy Technical Education Research Centers, 8 Eliot Street, Cambridge, MA 02138 ($4.00 reproduction costs plus $2.00 first class postage and handling; prepayment required).

Abstract

The 3-month study of the role of microcomputers in schools described in this report focuses on the six New England States and New York State. The report covers (1) instructional software available for the most frequently used microprocessors (including samples from several regions); (2) production of a resource listing of instructional courseware according to computer type, program language, grade level, objectives of the instructional program, location, cost, and source (see appendices for software bibliography); (3) examples of current school applications and the roles of microprocessors within the seven participating states; (4) identification of at least 10 locations where schools have successfully integrated the use of "personal computers" in the K-12 curriculum; (5) identification of policies or program procedures being used by various states to control or assist in the purchase of hardware; and (6) the development of a data bank of educational software and user evaluations of software on a commercial time-shared system. Included in the appendices are a software bibliography, a description of hardware available to schools, sample programs, addresses of organizations concerned with microcomputers and education, state survey reports, and program listings. (BK)

Title **Computer-Based Instruction: A New Decade. Proceedings of the Annual Conference of the Association for the Development of Computer-Based Instructional Systems (Bellingham, Washington, March 31-April 3, 1980).**
Orig. Inst. Association for the Development of Computer-based Instructional Systems.
Date/Pages Apr 80 ; 321p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED194047**

Abstract

The 50 papers in this collection from the 1980 ADCIS conference address topics ranging from coverage of large scale computer-based education (CBE) systems to specific single-purpose applications. The conference papers are presented in the following categories: Special Interest Group for the Handicapped; Mini-Micro Special Interest Group; Special Interest Group for Computer-Based Training; Elementary, Secondary, Junior College Special Interest Group; National Consortium for Computer-Based Music Instruction; Health Special Interest Group; National Consortium for CBE in Home Economics; Designing Instruction in the Basic Skills for Use with Micro Computer Technology; and PLATO Users Group. An author index is provided, and descriptions of 26 additional projects are attached. (MER)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Chambers, Jack A.; Sprecher, Jerry W.
Title **Computer Assisted Instruction: Current Trends and Critical Issues.**
Jour. Citation Communications of the ACM; v23 n6 p332-42 Jun 1980
Abstract

The use of computers to assist in learning situations is reviewed on an international basis, evaluation studies and costs are explained, and critical issues are analyzed as they pertain to hardware, software, and courseware development. Recommendations are offered for educationally cost-effective uses of computer-assisted instruction. A 67-item bibliography is included. (CHC)

Author(s) Evans, Christopher
Title **Microcomputers in the Classroom: An Invitation to the (Near) Future**
Jour. Citation Today's Education: Social Studies Edition; v71 n2 p14-17 Apr-May 1982
Abstract

Examines the impact of microcomputers on education in the next two decades. The range of tasks that a microcomputer will be able to perform as well as the advantages and disadvantages for teachers and students are discussed.

Title **Computers Are Objects to Think with.**
Jour. Citation Instructor; v91 n7 p86-87,89 Mar 1982
Abstract

An interview with Seymour Papert, an advocate of computer instruction for children and colleague of Jean Piaget, focused on questions concerning: (1) schools' use of computers; (2) teacher preparation for computer technology in the classroom; (3) importance of students and teachers learning to program; and (4) methods of computer assistance in instructing mathematics, writing, and language skills. (JN)

Author(s) Coburn, Peter; And Others
Title **How to Set up a Computer Environment.**
Jour. Citation Classroom Computer News; v2 n3 p29-31,48 Jan-Feb 1982
Abstract

This material is excerpted from the first book of the Addison-Wesley series on computers in education titled "Practical Guide to Computers in Education." Details on planning the physical setup, the question of access, providing the information needed, and establishing rules for computer use are presented as a guide. (MP)

Author(s) Hall, Gene E.
Title **Issues Related to the Implementation of Computers in Classrooms.**
Jour. Citation Journal of Computers in Mathematics and Science Teaching; v1 n2 p14-19 Win 1981
Abstract

Reviews findings from change process research connecting current issues in the microcomputer movement. Concludes with a call for descriptive studies emphasizing development of hypotheses and theory building, particularly in further research and development efforts around software and implementation issues. (MP)

Author(s) Senter, Joy
Title **Computer Technology and Education.**
Jour. Citation Educational Forum; v46 n1 p55-64 Fall 1981
Abstract

Examines educational tasks in general computing, including computer-assisted instruction, computer-managed instruction, word processing, secretarial and business applications, time sharing, and networking to larger computers. (CT)

Author(s) Lewis, R.
Title **Education, Computers and Micro-Electronics.**
Jour. Citation Technological Horizons in Education; v8 n1 p47-49,59 Jan 1981
Abstract

Traces general educational changes over the last 20 years, summarizes past and present uses of computers in education, and identifies the impact microelectronics will have on present and future education. Discusses vocational training, availability of inexpensive educational resources, teaching methods, and teacher education. (DC)

Author(s) Stewart, George
Title **How Should Schools Use Computers?**
Jour. Citation Popular Computing; v1 n2 p104,106,108 Dec 1981
Abstract

Looks at four current issues in the computers-in-education debate: Is the computer a tool or a new subject? Is computer-assisted instruction an appropriate use of computers? Should computer literacy be taught and, if so, what should be taught and by whom? What equipment should be purchased? (SJL)

Author(s) McCann, Patrick H.
Title **Learning Strategies and Computer-Based Instruction.**
Jour. Citation Computers and Education; v5 n3 p133-40 1981
Abstract

Reviews the literature on computer assisted instruction (CAI) and computer managed instruction (CMI), and discusses learner-controlled and program-controlled models in CBI. Experimental research on instructional processes and computers, particularly evaluative techniques, feedback procedures, and learner characteristics, are also reviewed. Forty-two references are included. (JL)

Author(s) Prentice, Lloyd; Beckelman, Laurie
Title **Classroom Computer News.**
Jour. Citation Instructor; v91 n3 p85-90,94,96-98 Oct 1981
Abstract

The editors of "Classroom Computer News" prepared this compendium of news and tips for using computers in the classroom. Topics include computer literacy, the benefits of classroom computer use, programing individualized education programs (IEPs), selecting courseware, the basics of microprocessors and new products. (Editor/SJL)

Author(s) Vannatta, Glen D.
Title **Computers for Instructional Purposes--A Case Study.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p37-45 Spr 1981
Abstract

The evolution of computers for instructional purposes in the Indianapolis Public Schools system is traced through a look at the progress of the system from the transporting of students to a college computer facility for instruction to the current explosion of microcomputers. Major problems involved teacher training, acquisition of equipment, and adaptation of learning materials to the computer. (Author/JN)

Author(s) Charp, Sylvia
Title **Effectiveness of Computers in Instruction.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p13-22 Spr 1981
Abstract

The computer has not yet reached its full potential in the secondary school. Besides instructional usage, present usages of the computer include computer-managed instruction, acquisition of basic skills, teaching computer literacy, evaluating occupational information, and providing data about colleges and universities. (Author/JN)

Author(s) Nicklin, R. C.; Tashner, John
Title **Micros in the Library Media Center?**
Jour. Citation School Media Quarterly; v9 n3 p168-72, 177-81 Spr 1981
Abstract

Discusses the applications of microcomputers in education, the available hardware, peripheral equipment, costs, user training, software, management considerations, and implications for the future. Twenty-nine references are cited. (FM)

Author(s) Gleason, Gerald T.
Title **Microcomputers in Education: The State of the Art.**
Jour. Citation Educational Technology; v21 n3 p7-18 Mar 1981
Abstract

This overview of instructional applications of computer-assisted instruction and microcomputer applications discusses current developments in hardware and software, the need for independent review and evaluation of CAI programs, the growing importance of computer literacy, especially for teachers, and projections for the future. Eleven references are listed. (MER)

Author(s) Moursund, David
Title **Microcomputers Will Not Solve the Computers-in-Education Problem.**
Jour. Citation AEDS Journal; v13 n1 p31-39 Fall 1979
Abstract

Discusses barriers to the utilization of computers in instruction and outlines the program of the Elementary and Secondary School Subcommittee of the Association for Computing Machinery to identify and lay a foundation for the solution of problem areas. (Author/IRT)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program	**Instructional Microcomputer Support Services**
Contact Person	Jane Pulvermacher
Address	626 East Slifer Street Portage, Wisconsin 53901
Telephone	(608) 742-8811

Abstract

This Cooperative Educational Service Agency (CESA) plans to meet the existing and growing needs of school districts for information, assistance, and training to implement and maintain a well organized program of microcomputers used for instructions. The CESA offers consultants, inservice sessions, workshops, mailings, and newsletters. CESA staff will help districts with procurement and maintenance arrangements, courseware review and exchange, system configuration, and trouble-shooting. The project is a member of the Wisconsin Instructional Computing Consortium. Over 500 instructional programs are available for Apple II, Atari and other microcomputers. (SS)

Funding Source(s)

The program is funded by school district subscriptions.

Cost of Implementation

Subscription costs are $850 the first year and $600 each succeeding year for a primary district site, and $200 for each additional site within a district.

Books

The following books may be obtained from your school IMC, public library, or directly from the publisher.

Author(s)	Moursund, David
Title	**Introduction to Computers in Education for Elementary and Middle School Teachers**
Publisher	International Council for Computers in Education
Date/Pages	1981; 96 p.
Source	International Council for Computers in Education, c/o Dept. of Computer and Information Science, University of Oregon, Eugene, OR 97403 ($7.00 prepaid)

Abstract

As an inservice education tool for teachers, this can be used either for self instruction or as part of a formal course. It provides an in-depth treatment of instructional computing at the elementary/middle school level. Over 75 activities which can be used at this educational level are provided. This book is an expansion of material which originally appeared in "The Computing Teacher."

Author(s)	O'Neill, Harold F., Ed.
Title	**Computer-Based Instruction: A State-of-the-Art Assessment**
Publisher	Academic Press
Date/Pages	1981; 260 p.
Source	Academic Press, 111 Fifth Ave., New York, NY 10003. ($23.50)

Abstract

This book consists of State-of-the-Art Assessments of many aspects of Computer Based Instruction (CBI). These chapters reflect not only the present state of CBI, but also future directions. Each assessment has been written by experts in the field. Every chapter concludes with a list of references which will be useful for further reading. Chapter subjects are: computer managed instruction, hardware and software, courseware, learning strategies, evaluation of CBI, management, and CBI in Europe and Japan.

Author(s)	Poirot, James L.
Title	**Computers and Education**
Publisher	Sterling Swift Publishing Company
Date/Pages	1980; 80 p.
Source	Sterling Swift, 1600 Fortview Rd., Austin, TX 78704 ($6.95)

Abstract

This book provides an introduction to the use of computers in education for the novice. After a brief history of educational computing, the text moves into a discussion of specific applications. Computer Assisted Instruction, Computer Literacy and Administrative Computing are each defined with a short elaboration. The problem of selecting software is approached and a few quality guidelines are listed. Several games which do not use a computer but which increase computer literacy concepts are described. The book concludes with a discussion of future directions for instructional computing.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Author(s) Smith, Ronald M.
Title **Improving Instructional Management with Microcomputers**
Orig. Inst. Northwest Regional Educational Laboratory
Date/Pages 81; 24 p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **by title.**
Abstract

This paper explains the advantages of using computers for instructional management and gives examples of its application. It further defines seven specific types of instructional management functions. Basic computer terminology is defined, hardware components are explained and a few criteria for software are listed. Several profiles of CMI programs are presented. These profiles include hardware and software specifications and a contact person.

Author(s) Thomas, David B.; Bozeman, William C.
Title **Computers for Your Classroom: CAI and CMI.**
Orig. Inst. Iowa Univ., Iowa City. Inst. for School Executives.
Date/Pages Jul 81 ; 5p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED209767**
Hard Copy Institute for School Executives, University of Iowa, 210 Lindquist Center, Iowa City, IA 52242 ($1.00).
Abstract

The availability of compact, low-cost computer systems provides a means of assisting classroom teachers in the performance of their duties. Computer-assisted instruction (CAI) and computer-managed instruction (CMI) are two applications of computer technology with which school administrators should become familiar. CAI is a teaching medium in which students respond to computer displays. The ability of computers to interact with students distinguishes CAI from most instructional media. The computer may provide corrective feedback or present new information based on the student's response. The forms of interactive CAI include drill, practice, tutorial programs, problem-solving, instructional simulation, and testing. CMI provides information to the teacher that assists in the management of learning activities, and facilitates the processing of student information. CMI systems alleviate the burdens of recordkeeping and thereby enhance decision-making. School administrators should provide the appropriate leadership and support for the use of CAI and CMI in the educational process. (JEH)

Author(s) Adams, Charles F.; And Others
Title **Project Impact: A Computer-Based Student Achievement Information System.**
Date/Pages Apr 81 ; 69p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205209**
Abstract

Project Impact, a support system for the administrative and instructional staff in the Onondaga-Madison BOCES schools, was designed to support a diagnostic-prescriptive approach in the classroom by providing the information the teacher needs in order to make instructional decisions. It consists of a series of computer programs with a large storage bank of data to assist school personnel in curriculum development, validation and dissemination, standardized achievement testing, criterion referenced testing, student achievement data analysis, long term storage and retrieval of student test data, and the identification and reporting of students in categorically aided programs, as well as those in need of remediation. The efficacy of this instructional management information system on student learning has been substantiated through a systematic evaluation of its implementation in 45 classrooms that served as an initial systems pilot test. (Author/MER)

Author(s) McIsaac, Donald; And Others
Title **An Overview of MICRO-CMI.**
Orig. Inst. Wisconsin Univ., Madison. Research and Development Center for Individualized Schooling.
Date/Pages Nov 80 ; 23p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED198815**

Abstract

The MICRO-CMI system designed at the University of Wisconsin combines the grouping, diagnosis, and prescription functions of two previously designed systems, with the additional dimension of a sheet scanner to input grades and to score tests. Moreover, the user may specify a unique program of studies for each student, thus enabling the support of a special education curriculum designed around Individual Education Programs (IEP). The MICRO-CMI computer in the school offers online generation of results, reports, listings and grading, and operates more efficiently than the normal time-sharing system. Since the MICRO-CMI programs have been designed in a modular fashion, new functions can be added with a minimum of effort. Available for distribution on magnetic tape, the computer programs are coded in FORTRAN for a DEC LSI-11 using the RT-11 operating system. Because of the nature of the programming techniques applied and the amount of mass storage required, attempts to implement this program on APPLE, TRS-80, or other small eight-bit computers is not recommended. Sixteen schools in Wisconsin and Illinois participated in a pilot test of the system. (MER)

Author(s) Kosel, Marge; Horn, Marcia
Title **CAM--How to Use It. A Teacher's Approach to CAM.**
Orig. Inst. Hopkins Independent School District 274, Minn.
Date/Pages Nov 77 ; 47p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED183581**

Abstract

A guide is presented to the various uses of Comprehensive Achievement Monitoring (CAM), a computer-based instructional management system which provides relevant data on course objectives to elementary and secondary teachers and students after students are tested. Among the uses discussed are: student coupons, which list objectives on which the students are tested; a roster list for the teacher; a group summary report which may affect curriculum development and lesson plans; evaluation of new test forms; individual student evaluation; item analysis, mainly in connection with item or curriculum revision; the embedding of standardized test items in CAM tests; individualized education, using contracts; and the identification of core objectives or placement test items. (MH)

Author(s) Rodel, Lee J.
Title **CAM Coordinator's Manual.**
Orig. Inst. Hopkins Independent School District 274, Minn.
Date/Pages Mar 79 ; 45p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED183580**

Abstract

The technical implementation and operation of the Comprehensive Achievement Monitoring (CAM) system are discussed in this manual. It is written as a guide for those responsible for implementing CAM and for processing CAM-related work requests. Subjects covered include: CAM system operation summary: objectives and test items; conferencing with the teacher; test construction procedures; student response sheets/forms; and data processing system requirements. Example of CAM reports, using an Instructional Management Support System are appended. (Author/MH)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Jelden, D. L.
Title **Computer Generated Testing**
Jour. Citation AEDS Monitor; v20 n7-9 p32-35 Jan-Mar 1982
Abstract

Describes a procedure for using the computer to assist in evaluating the progress of students on pretests, unit tests, posttests or a combination of tests. The use of computers to evaluate cognitive objectives of a course is examined. Twenty-four references are listed. (MER)

Author(s) Moskowitz, Mickey
Title **Developing a Microcomputer Program to Evaluate Library Instruction**
Jour. Citation School Library Media Quarterly; p351-56 Summer 1982
Abstract

Describes the development of a software package which assists in the evaluation of a high school library orientation program. The CMI program which was developed analyzes test data to assist with the continued refinement of the orientation program.

Author(s) Rahmlow, Harold F.; Pedrick, Lillian G.
Title **Computer Based Training: Developmental Costs.**
Jour. Citation Performance and Instruction; v20 n10 p29-30 Dec 1981
Abstract

Presents several steps for developing computer based learning materials, and shows that they can be less expensive to design and implement than those that are developed using other media. (MER)

Author(s) McCann, Patrick H.
Title **Learning Strategies and Computer-Based Instruction.**
Jour. Citation Computers and Education; v5 n3 p133-40 1981
Abstract

Reviews the literature on computer assisted instruction (CAI) and computer managed instruction (CMI), and discusses learner-controlled and program-controlled models in CBI. Experimental research on instructional processes and computers, particularly evaluative techniques, feedback procedures, and learner characteristics, are also reviewed. Forty-two references are included. (JL)

Author(s) Gundlach, Aly
Title **Managing Instruction with a Micro.**
Jour. Citation Educational Computer Magazine; v1 n1 p12-15 May-Jun 1981
Abstract

Describes how Washington Elementary School District in Phoenix, Arizona is managing its minimum competency instructional system on PET microcomputers using Evans Newton Inc.'s PROJECT BASIC software. Program implementation considerations, such as timelines and inservice, are discussed. Journal availability: Educational Computer, P.O. Box 535, Cupertino, CA 95015. (SJL)

Author(s) Laffey, James M.; Helt, Sanford
Title **Managing Diversity: Application of Computer Management to Mathematics Instruction.**

Computer Managed Instruction
Journal Articles

Jour. Citation Journal of Developmental & Remedial Education; v4 n2 p17,21 Win 1981
Abstract
Addresses the problems involved in meeting diverse student needs within the classroom. Encourages the use of computer-managed education (CME) to facilitate the record-keeping and decision-making involved in instruction. Explains the use of a CME system in Seattle Community College's mathematics laboratory. Concludes that CME increases teaching/learning efficiency. (CAM)

Author(s) Potts, Michael
Title **Computer Pioneer.**
Jour. Citation Instructor; v90 n10 p74-75 May 1981
Abstract
The author describes how he has integrated a TRS-80 microcomputer into his second-grade classroom as a tutor, an enrichment resource, and a recordkeeping tool. He outlines some of the benefits this microcomputer has brought to his students and himself. (SJL)

Author(s) Allen, Michael
Title **Computer-Managed Instruction.**
Jour. Citation Journal of Research and Development in Education; v14 n1 p33-40 Fall 1980
Abstract
Computer-managed instruction (CMI) has potential for helping solve research and instructional management problems. Computer-managed individualized instruction involves the scoring of diagnostic tests, generation of study prescriptions, and record keeping. (JN)

Author(s) Seidel, Robert J.; Stolurow, Lawrence
Title **An Heuristic Meta-Model for Computer-Managed Instruction.**
Jour. Citation Journal of Research and Development in Education; v14 n1 p16-32 Fall 1980
Abstract
Computer-managed instruction (CMI) refers to the management of information relating to the instruction of individuals and the delivery of information to instructors, administrators, and students. A meta-model for the possible use in the design of a CMI system and a framework for analysis and planning are described. (JN)

Author(s) Eisele, James E.
Title **A Case for Computers In Instruction.**
Jour. Citation Journal of Research and Development in Education; v14 n1 p1-8 Fall 1980
Abstract
Computers can effectively present many forms of instructional material. Computers can also facilitate response-judging; provide feedback; store, index, and retrieve collections of information pertaining to instruction; and assist teachers with many administrative functions. (JN)

Author(s) Hazen, Margret
Title **An Argument in Favor of Multimethod Research and Evaluation in CAI and CMI Instruction.**
Jour. Citation AEDS Journal; v13 n4 p275-84 Sum 1980
Abstract
Five methods--final examination, attitude questionnaire, naturalistic observation, interview, and archival data analysis--of evaluating computer-assisted and computer-managed instruction are considered. The use of multiple methods has distinct advantages over the use of only one method. (Author/IRT)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **Demonstration Evaluation Center (CAM)**
Contact Person Thomas Diener
State Facilitator
Address 125 South Webster Street
P.O. Box 7841
Madison, Wisconsin 53707
Telephone (608) 266-3560

Abstract

The Evaluation Center in the public schools of Hopkins, Minnesota has developed and operates a computer-based instructional management system that provides relevant data to teachers and students after each test taken on course objectives. The Evaluation Center, which produces the tests to each teacher's specifications, also processes the results, feeds them to a nearby computer, and returns present and cumulative information about the progress of each student and of the entire class as a group. Also available are data on class performance on each objective and a test form evaluation. Teachers using the CAM system of monitoring student achievement first commit themselves to basing their instruction on course objectives developed by curriculum groups and teaching teams in the district. The system is used in classrooms that are group- paced, individualized, multigraded, etc. Subject areas include math, science, social studies, English, and reading. The Evaluation Center has developed techniques to assist teaching teams in identifying instructional strengths and weaknesses. (SS)

Program Evaluation

This program was validated by the JDRP, 5/75.

Funding Source(s)

Development of this program was funded by ESEA Title III.

Program **Individualizing Social Studies Utilizing Computer Managed Instruction**
Contact Person Julia M. Frohreich
Address 6009 Johnson St.
McFarland, Wisconsin 53558
Telephone (608) 838-3146

Abstract

A school district individualized instruction program in social studies grades K-6 with a computer managed instructional system. A model that was operational for other basic subjects was developed for social studies. The model includes staff inservice, feedback sessions from staff, and modifications of computer programs. Evaluation instruments are included for each major skill and concept area. Staff members have access to career information with implications for individualizing the 7-12 social studies curriculum. (SS)

Funding Source(s)

The program was funded by a Title IV-C grant.

Cost of Implementation

The grant award was $55,501.

Program **Adaptation of Comprehensive Achievement Monitoring (CAM)**
Contact Person Larry Ballwahn
P.O. Box A
Elroy, Wisconsin 53929
Telephone (608) 462-8242

Abstract

A computer-based achievement testing program from Hopkins, Minnesota has been adapted to provide teachers, parents, students and administrators with the necessary achievement data for remedial teaching, reinforcement and decision making. The program replaces various objective-based instructional programs with a single management system. Each student in grades 7-12 should be able to master mathematics and language arts to his or her full potential. To this end, teachers select basal objectives and test items, test for foreknowledge, mastery, and retention, and use the resulting information for improved instruction and communication. (SS)

Cost of Implementation

The grant award for this program is $25,000.

Program **Computer-Assisted-Diagnostic-Prescriptive Program in Reading and Mathematics (CADPP)**
Contact Person Debra J. Glowinski
Box 292
Dillwyn, Virginia 23936
Telephone (804) 983-2714 or (804) 983-2863

Abstract

CADPP is a remedial program in reading and mathematics designed to supplement the regular school program. Both regular and Title I curricula develop and utilize teacher-made games, worksheets, and manipulative materials. The staff believe that diverse learning styles require a variety of supplemental materials to reinforce skills. CADPP has three major components; A diagnostic approach to individualized instruction; a learning center approach to classroom management; and an individual, computerized prescriptive approach to instruction in areas of need. Essential elements of the program include diagnosis with a criterion referenced test, use of a computer to develop an individualized educational plan, an instructional management system incorporating learning stations, and maintenance of a continuing computer update of instructional activities and pupil progress. Use of a computer to perform the clerical duties allows teachers more time for instruction. Intense staff development provides the computer with a data bank containing information on student characteristics and learning material characteristics. After diagnostic testing and teacher observation define skill needs, the computer matches the two sets of characteristics to prepare the prescription best suited to each individual student. The teacher receives technical assistance in effective implementation of the students's program.

Program Evaluation

This program has been validated by the JDRP, 6/79.

Funding Source(s)

Elementary Secondary Education Act Title I

Cost of Implementation

Based on 468 pupils, start-up cost is $45.51 per pupil. In addition, cost for implementing a criterion-referenced testing program and instructional management system is $13.64 per pupil. Continuation costs are $10.32 per pupil, based on 630 students.

Program **Basic Skills in Reading (BASK)**
Contact Person Marjorie H. Benz
Amoskeag School
Address 121 Front Street
Manchester, New Hampshire 03102
Telephone (603) 669-3295

Abstract

BASK is an adoptable/adaptable program that can be used in several ways to upgrade reading skills. Target pupils are remedial. It is a pull-out project, using a criterion-referenced format and including individualized diagnosis, prescription, and instruction. The BASK curriculum is targeted to basic reading skills--readiness, phonics, structural analysis, comprehension,and study reference skills. Each child in the program receives 150 minutes of instruction weekly (30 minutes daily), working in small groups or on a one to one basis. The heart of the project is the individualized small-group instruction given daily in the child's familiar classroom setting. Frequent diagnosis and flexible prescriptive teaching ensure pupils' experience of success. Pupils evidencing possible learning disabilities are referred for testing and programming, if needed. Computerized information retrieval is used for diagnosis, prescription, and recordkeeping. The computer also processes progress reports for parents and school staff. The project is designed also for manual recordkeeping and data processing.(GAW)

Program Evaluation
This program has been validated by the JDRP, 9/11/75.

Funding Source(s)
Elementary Secondary Education Act Title I

Cost of Implementation
Approximately 65% of materials used can be made from materials available at the BASK Resource Center. Commercially available materials make up the remainder. Projected cost per pupil in 1978, $401.20.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Author(s) Rapaport, P.; Savard, W. G.
Title **Computer-Assisted Instruction. Research on School Effectiveness Project: Topic Summary Report.**
Orig. Inst. Alaska State Dept. of Education, Juneau.
Date/Pages 80; 101p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED214707**
Abstract

The Alaska School Effectiveness Project produced several reports in a series of reviews of research literature on such topics as computer-assisted instruction. Using an ERIC search and conventional library methods, the question raised was "Does computer assisted instruction (CAI), when combined with traditional instruction, lead to higher achievement than traditional instruction alone"? The research findings made it clear that CAI is an effective supplement to traditional instruction. The evidence was not strong enough to support teaching by CAI exclusively; a combination approach seemed to work best. CAI was also popular with students and often improved their attitude toward subject matter. It is recommended that the use of CAI be actively promoted and expanded, especially in small schools in rural areas where it is difficult to offer full schedules of classes to limited numbers of students. It is also recommended that CAI be increased with low achieving students and with students alienated by traditional teaching methods. Since the development of CAI programs may be beyond the capabilities of some small districts, it is recommended that the state lead in development efforts, providing both financial support and technical expertise. The document includes item decision displays, a 22 citation bibliography, and individual item reports on the citations. (BRR)

Author(s) Thomas, David B.; Bozeman, William C.
Title **Computers for Your Classroom: CAI and CMI.**
Orig. Inst. Iowa Univ., Iowa City. Inst. for School Executives.
Date/Pages Jul 81 ; 5p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED209767**
Hard Copy Institute for School Executives, University of Iowa, 210 Lindquist Center, Iowa City, IA 52242 ($1.00).
Abstract

The availability of compact, low-cost computer systems provides a means of assisting classroom teachers in the performance of their duties. Computer-assisted instruction (CAI) and computer-managed instruction (CMI) are two applications of computer technology with which school administrators should become familiar. CAI is a teaching medium in which students respond to computer displays. The ability of computers to interact with students distinguishes CAI from most instructional media. The computer may provide corrective feedback or present new information based on the student's response. The forms of interactive CAI include drill, practice, tutorial programs, problem-solving, instructional simulation, and testing. CMI provides information to the teacher that assists in the management of learning activities, and facilitates the processing of student information. CMI systems alleviate the burdens of recordkeeping and thereby enhance decision-making. School administrators should provide the appropriate leadership and support for the use of CAI and CMI in the educational process. (JEH)

Author(s) Feurzeig, W.; And Others
Title **Microcomputers in Education. Report No. 4798.**
Orig. Inst. Bolt, Beranek and Newman, Inc., Cambridge, Mass.
Date/Pages Oct 81 ; 115p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208901**
Abstract

A brief review of the history of computer-assisted instruction and discussion of the current and potential roles of microcomputers in education introduce this review of the capabilities of state-of-the-art microcomputers and currently available software for them, and some speculations about future trends and developments. A survey of current applications of microcomputers is followed by descriptions of hardware capabilities, including input and output devices and displays, as well as memory, and a review of some representative software for teaching mathematics, language skills, social sciences, natural sciences, and educational games. The status of research on the instructional effectiveness of CAI is briefly discussed, and five prominent studies which show consistent results are cited. Descriptions of near-future technological capabilities include hardware trends, software developments (including high level languages, operating systems, and user interface), artificial intelligence, and programming languages. Changing expectations, potential problems, and educational promise are addressed in a concluding discussion of prospects and pitfalls. A 43-item bibliography is provided. (CHC)

Author(s) Vickery, Carol A.
Title **Personal Experiences: Using Microcomputers in a Junior High School High-Potential Program.**
Date/Pages 30 Apr 81 ; 29p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208860**
Abstract

This report describes the beginning of a school district's involvement in the use of microcomputers in the classroom, and one teacher's experiences with microcomputers in a junior high school setting. Background information is given on how the district financed its initial computer investment, approaches the district used to encourage teacher involvement with computers, and an analysis of microcomputer applications in an English class, in writing a school newspaper, and in a program for the academically gifted. Strategies for initiating teacher involvement and managing student enthusiasm over a 2-year period are presented, as well as suggestions for using microcomputers in writing programs. (MER)

Author(s) Abelson, Hal; Goldenberg, Paul
Title **Teacher's Guide for Computational Models of Animal Behavior: A Computer-Based Curriculum Unit to Accompany the Elementary Science Study Guide "Behavior of Mealworms." Artificial Intelligence Memo No. 432.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages Apr 77 ; 35p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207798**
Hard Copy Artificial Intelligence Lab., 545 Technology Square, Rm. 338, Cambridge, MA 02139 ($1.75).
Abstract

This experimental curriculum unit suggests how dramatic innovations in classroom content may be achieved through use of computers. The computational perspective is viewed as one which can enrich and transform traditional curricula, act as a focus for integrating insights from diverse disciplines, and enable learning to become more active and project oriented. This unit suggests how an interplay of computer and non-computer activities could occur with elementary school biology. This material is envisioned as a second exposure to the LOGO programing language. Hence, the issues of introducing students to the basics of writing procedures and controlling turtles are not discussed. The focus is on illustrating how accessible computer-oriented facilities can be integrated into the classroom environment. The unit is prepared as a companion to the Elementary School Science Study "Teacher's Guide to Behavior of Mealworms." (MP)

Author(s) Chambers, Jack A.; Bork, Alfred
Title **Computer Assisted Learning in U.S. Secondary/Elementary Schools.**
Orig. Inst. Association for Computing Machinery, New York, N.Y.

Date/Pages Jul 80 ; 50p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED202461**
Abstract

A sample of 974 school districts was surveyed by mail to determine the current and projected use of computers in United States public secondary/elementary schools, with special reference to computer assisted learning. Returned questionnaires provided a 62.3 percent response rate, and were balanced both geographically and by urban/rural distribution. Analyses indicated that 90 percent of the districts were currently using the computer, with projections to 94 percent by 1985. Instructional usage was reported by 74 percent, with projections to 87 percent by 1985. A total of 54 percent of the districts reported use of the computer for computer assisted learning, with projections to 74 percent by 1985. Major usage is in secondary schools for drill and practice in mathematics, natural sciences, business, and language arts. Projections for 1980-85, however, indicate greater usage in the social sciences at the secondary levels, as well as growth at the elementary school levels in all subject areas, and shifts to tutorials and simulations with microcomputers as the delivery systems. Major impediments to usage were identified as financial, lack of knowledge about computer assisted learning and computers in general, faculty attitudes, and the need for more and better computer assisted learning modules. (Author/BK)

Author(s) Loop, Liza; Christensen, Paul
Title **Exploring the Microcomputer Learning Environment. Independent Research and Development Project Reports. Report #5.**
Orig. Inst. Far West Lab. for Educational Research and Development, San Francisco, Calif.
Date/Pages Nov 80 ; 90p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED201307**
Abstract

The current state of the art on the educational use of microcomputers was explored through a review of the literature, observations, and interviews with teachers and practitioners. A working taxonomy to characterize typical computer-augmented learning environments (CALEs) was developed which consisted of environmental elements, activity segments, teacher-learner environment situations, and learner attributes. Results of the interviews with teachers and practitioners showed that in their CALEs, teachers concentrated less on the presentation of curriculum context and more on computer literacy, thinking, and problem skills, and computer applications. Their expressed needs were for more computers, quality software, and computer-related teacher training. Positive and negative factors affecting CALEs included: (1) the "hardware reliability" problem, (2) the "access" problem, (3) the "friendly environment" problem, (4) the "social pressure" problem, and (5) the "overbearing person" problem. A hierarchy of achievement that most students pass through was specified, which included fear, curiosity, understanding, and tool use. The profile of a successful computer student showed that such learners tended to be bright, often boys, math and science oriented, logical or analytical thinkers, and persevering. Details on the survey itself and on the taxonomy are appended, and extensive references are provided. (Author/BK)

Author(s) Cox, Dorothy Anna Howard
Title **Early Adolescent Use of Selected Problem-Solving Skills Using Microcomputers.**
Date/Pages 80 ; 264p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED200449**
Abstract

This study examined two major areas: (1) evaluation of the characteristics, interactions, problem-solving strategies and achievement of seventh- and eighth-grade junior high school students (N=66) as they interacted with a microcomputer in three problem-solving sessions, and (2) determination of the effectiveness of three original microcomputer programs using topics from life science, social studies and environmental science in problem-solving, and a fourth program in specific skill training in organizing data using a matrix. Selected conclusions indicated that: (1) students can improve in problem-solving skills in a short time on a microcomputer; (2) the training session in organizing data into a matrix was successful in introducing a usable new strategy; (3) individuals worked better in teams than alone; (4) subjects were just as motivated when sessions were more infrequent; (5) influence of group interaction enabled subjects of all abilities to successfully participate in and solve problems; (6) all subjects adapted easily and quickly to the use of a microcomputer; (7) subject interest remained high regardless of achievement or variances of individual characteristics; and (8) microcomputers can be considered a viable, motivating aid for the development of some problem-solving skills of early adolescents. (Author/JN)

Author(s) Dugdale, Sharon
Title **Using the Computer to Foster Creative Interaction among Students.**
Orig. Inst. Illinois Univ., Urbana. Computer-Based Education Lab.
Date/Pages Oct 79 ; 19p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED200243**
Hard Copy Computer-Based Education Research Laboratory, University of Illinois, Urbana, IL 61801 ($2.50).

Abstract

The network characteristics of the PLATO computer-based education system permit students to communicate not only with the computer, but with each other. This capability can be exploited in educationally significant ways. In addition to the social interaction which occurs when students help each other at the terminal and when they work together at a terminal in 2-student lessons, students can interact in real time from widely separated terminals, and they can see and learn from products generated by other students who were working not only at other places but at other times. This results in a variety of experience, a richness of expression, and a degree of motivation that is difficult or impossible to attain when students work at individual terminals in effective isolation from their peers. (Author/RAA)

Author(s) Hallworth, H. J.; Brebner, Ann
Title **Computer Assisted Instruction in Schools: Achievements, Present Developments, and Projections for the Future.**
Orig. Inst. Calgary Univ. (Alberta). Faculty of Education.
Date/Pages Jun 80 ; 243p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED200187**

Abstract

This overview of computer assisted instruction (CAI) traces the development and use of computers in learning and instruction and describes some current CAI projects including PLATO, CDC PLATO, TICCIT, and others at Stanford University and the Computer Curriculum Corporation, and in Chicago, Los Nietos (California), Minnesota, Europe, and Canada. Technological developments in microcomputers and their use for CAI; hard copy, display terminals, and multimedia terminals for CAI; videotape; videodisc; and communications are discussed. Also examined are factors influencing the future development of CAI, such as costs, student achievement and attitude, integration of CAI into the instructional setting, and CAI languages. Conclusions and recommendations are concerned with hardware, software, courseware, personnel, priority areas for CAI, and demonstration projects. An extensive bibliography is provided, and additional remarks on CAI languages and a schedule of visits made in connection with the study are appended. (CHC)

Author(s) Jelden, David L.
Title **The Microcomputer as an Interactive Instruction System in the Classroom.**
Orig. Inst. University of Northern Colorado, Greeley.
Date/Pages 80 ; 248p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED194710**

Abstract

A study was conducted from March 1976 through June 1980 on the application and feasibility of a computer micro-system as an interactive tutorial instructional tool in a self-contained classroom. Literature on computer assisted instruction (CAI), hardware, and software was examined. Individualized CAI materials for industrial arts and technology electronics were generated. An instructional model and guidelines for its use were developed. Microprocessor system instructional effectiveness and human factors associated with its classroom use were examined. Findings include the following: (1) CAI program generation is possible only if instructors develop instructional units which stand alone yet interrelate with each other; (2) instructors must consider individual student differences and use student feedback extensively; (3) computers purchased for CAI use should be standard, meet certain minimum capacity requirements, and have readily available maintenance services; (4) most students found CAI as good or better than other media in teaching concepts and skills, felt CAI helped them better meet course objectives, and found lessons readable and easily understood; (5) CAI lessons showed a positive correlation to student grades. Findings affirm CAI feasibility. Investigation of microcomputers for simulation purposes or for use by the handicapped are recommended. (A 100-page appendix contains CAI sample "coursewriter," computer programs, evaluation forms, course outlines, a pretest, list of microcomputer suppliers by product/system, and a bibliography.) (MN)

Author(s) Saily, Mary, Ed.; And Others
Title **Secondary Schools Stop Babysitting.**
Orig. Inst. Council for Educational Development and Research, Washington, D.C.
Date/Pages 80 ; 25p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED194472**
Abstract

The purpose of this journal, addressed specifically to educators, is to describe, introduce, or translate results of research and development work funded by the National Institute of Education. The first article examines two secondary schools that are undertaking comprehensive efforts to improve their practices with help from the Wisconsin Research and Development Center for Individualized Schooling. Major emphasis is being placed on Individually Guided Education, with the local school staff engaging in ongoing educational improvement. Curriculum, instruction, and school organization are arranged to facilitate the continuous progress of each student. In the second article new developments in the use of computers in the classroom are discussed. Ways in which a computer can be of service in various school functions are described, and the problems as well as benefits involved in developing computer assisted instruction are explored. In the last article, a researcher discusses teacher education. Particular consideration is given to the problems of the beginning teacher and the first year experience. It is recommended that active participation of more experienced teachers in assisting beginners be formalized as regular practice. (JD)

Author(s) McTeer, J. Hugh; Jackson, Barry N.
Title **The Use of the Portable Computer in Classroom Instruction.**
Date/Pages 78 ; 8p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED186339**
Abstract

This paper describes a computer-assisted instruction program which was used in a senior high school local government course. In the fall of 1978, a contract was worked out between four senior American government students who were also studying fifth year mathematics. In return for writing a computer program on local government, which would count as 25 percent of the second nine weeks grade in both classes, the students were given some release time from regular classroom activities in both the government and the mathematics classes. Some homework was also suspended for these students. The program was written in basic computer language for a TR8-80 Radio Shack Level II computer. The particular data statements were designed to question students on local county government. The computer logic, however, could be used in any other subject area and the teacher would only have to develop different data statements to fit the different subject area. The data for the local government course consisted of 99 questions--33 questions each of multiple choice, true or false, and fill in the blank. The program was used in various ways. For example, individual students used the computer for remedial work. The program has also been used as a pretest of the student's knowledge of local government. The program provides direct feedback since incorrect responses are immediately noted, students are given correct answers, and students are given page numbers in the textbook when they need extra help and information. The program has increased student interest in the course. (Author/RM)

Author(s) Cox, John P.
Title **Common PILOT Manual. The Illinois Series on Educational Applications of Computers, Number 34.**
Orig. Inst. Illinois Univ., Urbana. Dept. of Secondary Education.
Date/Pages Jul 79 ; 36p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED183202**

Abstract

This manual presents an overview of the PILOT educational computer language, a simplified teacher-directed alternative to the use of BASIC for designing computer assisted instruction, and provides examples to illustrate its features. These features are described in terms of format, labels, numeric variables, alphanumeric variables, system variables, expressions and operators, functions, op-codes or commands, entering PILOT programs on the Horizon computer system, and running PILOT programs. Appendices describe proper use of vectors or arrays in PILOT programs, and exponential notation and ASCII code. (MV)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Craft, C. O.
Title **Research on the Use of Computer Assisted Instruction**
Jour. Citation Man/Society/Technology; v41 n7 p26-27 Apr 1982
Abstract

Reviews recent research studies related to computer assisted instruction (CAI). The studies concerned program effectiveness, teaching of psychomotor skills, tool availability, and factors affecting the adoption of CAI. (CT)

Author(s) Rahmlow, Harold F.; Pedrick, Lillian G.
Title **Computer Based Training Developmental Costs.**
Jour. Citation Performance and Instruction; v20 n10 p29-30 Dec 1981
Abstract

Presents several steps for developing computer based learning materials, and shows that they can be less expensive to design and implement than those that are developed using other media. (MER)

Author(s) Martin, Kathleen
Title **The Learning Machines.**
Jour. Citation Arithmetic Teacher; v29 n3 p41-43 Nov 1981
Abstract

The potential abilities of microcomputers to respond to personal learning patterns and individual learning styles are discussed. (MP)

Author(s) Hartman, Janet
Title **A Systematic Approach to the Design of Computer Assisted Instruction Materials.**
Jour. Citation Technological Horizons in Education; v8 n2 p43-45 Feb 1981
Abstract

Describes six basic steps in designing the instructional content of computer assisted instructional materials. (DC)

Author(s) Bunderson, C. V.; And Others.
Title **Work Models: Beyond Instructional Objectives.**
Jour. Citation Instructional Science; v10 n3 p205-15 Sep 1981
Abstract

Presents the concept of a work model which is a unit of practice within a computer based instructional system allowing replication of both information and interaction. The model also addresses some of the fundamental problems with objectives, e.g., richness of terminal behavior and relation to content. Ten references are listed. (CHC)

Author(s) McCann, Patrick H.
Title **Learning Strategies and Computer-Based Instruction.**
Jour. Citation Computers and Education; v5 n3 p133-40 1981

Abstract

Reviews the literature on computer assisted instruction (CAI) and computer managed instruction (CMI), and discusses learner-controlled and program-controlled models in CBI. Experimental research on instructional processes and computers, particularly evaluative techniques, feedback procedures, and learner characteristics, are also reviewed. Forty-two references are included. (JL)

Author(s) Prentice, Lloyd; Beckelman, Laurie
Title **Classroom Computer News.**
Jour. Citation Instructor; v91 n3 p85-90,94,96-98 Oct 1981
Abstract

The editors of "Classroom Computer News" prepared this compendium of news and tips for using computers in the classroom. Topics include computer literacy, the benefits of classroom computer use, programing individualized education programs (IEPs), selecting courseware, the basics of microprocessors and new products. (Editor/SJL)

Author(s) Clement, Frank J.
Title **Affective Considerations in Computer-Based Education.**
Jour. Citation Educational Technology; v21 n4 p28-32 Apr 1981
Abstract

This literature review deals with the problem of attitudes about computer-assisted instruction (CAI) from the viewpoint of four distinct populations--student, instructor, lesson author, and administrator. Twenty-one references are listed. (Author/MER)

Author(s) Joiner, Lee Marvin; And Others
Title **Independent Study: Route to Academic Equity for Rural High Schools.**
Jour. Citation Educational Leadership; v38 n7 p578-80 Apr 1981
Abstract

An innovative and cost-effective means of expanding curricular offerings for the rural school is the use of computer-assisted instruction, extension courses offered through correspondence, audiovisual courses, and videotape courses. (Author/MLF)

Author(s) Potts, Michael
Title **Computer Pioneer.**
Jour. Citation Instructor; v90 n10 p74-75 May 1981
Abstract

The author describes how he has integrated a TRS-80 microcomputer into his second-grade classroom as a tutor, an enrichment resource, and a recordkeeping tool. He outlines some of the benefits this microcomputer has brought to his students and himself. (SJL)

Author(s) Levy, Phyllis Saltzman
Title **The Algorithm Model for Schooling: An "All Win" Combination.**
Jour. Citation NASSP Bulletin; v65 n443 p54-60 Mar 1981
Abstract

Presents a model for schools based on the transmission of algorithms (a set of problem-solving procedures) through computers. Sample lesson series are provided, as well as a description of special teacher qualifications required and the benefits of such a program. (Author/WD)

Author(s) Anderson, John M.
Title **Seven Hints for Computer-Aided Instruction Using Your TRS-80.**
Jour. Citation onComputing; v2 n4 p81-85 Spr 1981

Abstract

The author provides teachers with ideas which will help them to write computer-assisted instruction modules in any subject area, using the BASIC programing language and Radio Shack's TRS-80 microcomputer. Hints include compressing print statements, setting timing loops, and adding video interest. Sample program listings are provided. (SJL)

Author(s) Eisele, James E.
Title **A Case for Computers In Instruction.**
Jour. Citation Journal of Research and Development in Education; v14 n1 p1-8 Fall 1980
Abstract

Computers can effectively present many forms of instructional material. Computers can also facilitate response-judging; provide feedback; store, index, and retrieve collections of information pertaining to instruction; and assist teachers with many administrative functions. (JN)

Author(s) Tennyson, Robert D.; Buttrey, Thomas
Title **Advisement and Management Strategies as Design Variables in Computer-Assisted Instruction.**
Jour. Citation Educational Communication and Technology: A Journal of Theory, Research, and Development; v28 n3 p169-76 Fall 1980
Abstract

Describes a study comparing learner control and program control, and the effects of giving learners information about their achievements in relation to criterion during instruction. Success was measured in terms of posttest scores, time on task, and number of instructional examples required. References are included. (Author/BK)

Author(s) Hazen, Margret
Title **An Argument in Favor of Multimethod Research and Evaluation in CAI and CMI Instruction.**
Jour. Citation AEDS Journal; v13 n4 p275-84 Sum 1980
Abstract

Five methods--final examination, attitude questionnaire, naturalistic observation, interview, and archival data analysis--of evaluating computer-assisted and computer-managed instruction are considered. The use of multiple methods has distinct advantages over the use of only one method. (Author/IRT)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **Project BASIC (Basic Academic Skills Instructional Component)**
Contact Person Earl I. Nelson
Address 2220 Northwestern Avenue
Racine, Wisconsin 53404
Telephone (414) 631-7068

Abstract

Project BASIC is an in-school program designed to serve all students in grades 10-12 who function at or below the 25th percentile national norms, or have failed a competency test in language arts, mathematics or reading. Microcomputers enable individualization and self-pacing of basic skills instruction to supplement classroom instruction. Students also have access to community agencies. Any student who demonstrates behaviors associated with dropping out will be referred for out-of-school counseling and assistance aimed to encourage the student to remain in school and work toward graduation. Project BASIC attempts to maximize the probability that potential dropout students will remain in high school through graduation by improving basic skill levels and coordinating support services, particularly job placement and use of community resources. (SS)

Funding Source(s)

The program was funded by the Governor's Employment and; Training Office/Wisconsin Youth Initiative Program.

Cost of Implementation

The initial grant was $159,910.

Program **Computer Inservice Program**
Contact Person Berland A. Meyer; DuWayne Kleinschmidt
Address 407 Grant Street
Wausau, Wisconsin 54401
Telephone (715) 845-5279

Abstract

In the spring of 1979 the decision was made by the Wausau School District to make a concerted effort to use microcomputers in the educational system. It was further decided that in order to implement this effectively inservice training had to be designed which would enable teachers to feel comfortable and competent with microcomputers. The program has progressed through four phases. During Phase 1, three microcomputers were introduced and used successfully in three carefully selected fifth grade classes. Interest and enthusiasm grew within the school districts. During Phase 2, four teachers from within the district developed and ran a four week "hands on" workshop. This was repeated three times with a total of sixty participants. During this phase, 55 microcomputers were placed in the district and a college credit course was also offered. In Phase 3, a course with college credit was offered in the district; 23 people enrolled. As a result of this course, teachers are writing their own programs and classroom use is high. During Phase 4, school district teachers have been offered college credit courses in cooperation with a state university. More advanced work is developing and teachers from all grade levels and subject disciplines are participating. The Wausau School District is now able to offer consultant assistance to other districts. (CWF)

Funding Source(s)

Local School District; Elementary Secondary Education Act Title IV

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Title **School Microware Reviews. Evaluations of Educational Software for Apple, PET, TRS-80, with Index to Evaluations in Other Publications.**
Orig. Inst. Dresden Associates, Dresden, ME.
Date/Pages 81; 68 p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED213389**
Abstract

This document describes the operation and quality of pre-college instructional software sold for use on microcomputers. It also assists in locating other sources of similar information about instructional software. This edition is limited to programs for the Apple II, Commodore PET, and Radio Shack TRS-80 Model I. Fifty reviews of software products from 21 different suppliers are listed. In addition, an index is included which provides access to 287 reviews of instructional software published over the past two years by a dozen different magazines and journals. Also described is the User Software Review Program, a cooperative program through which persons interested in evaluating software may recieve free or reduced price copies of School Microware Reviews. Advice is given on selecting software for review and on submitting evaluations. A copy of the evaluation form to be used is also provided. (LLS)

Author(s) Crawford, Stuart
Title **A Standard's Guide for the Authoring of Instructional Software. Reference Manual Volume III.**
Orig. Inst. JEM Research, Victoria (British Columbia).; Victoria Univ. (British Columbia).
Date/Pages 81 ; 145p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED211062**
Hard Copy JEM Research, Discovery Park, PO Box 1700, Victoria, B.C. V8W 2Y2 Canada ($75.00).
Abstract

This guide gives step-by-step directions for authoring computer-assisted instruction materials as well as advice on planning, designing, coding, documenting, and evaluating computer assisted courseware. The importance of prospective courseware designers having a sound background in both educational theory and practice is also discussed, and various learning theories and their applications for computer courseware design are examined. Appendices provide information on choosing a computer language and on using graphics on the Apple II microcomputer. Courseware evaluation instruments are also included, and 65 references are listed. (LLS)

Author(s) Forman, Denyse; And Others
Title **Reference Manual for the Instructional Use of Microcomputers. Volume I (Release II).**
Orig. Inst. JEM Research, Victoria (British Columbia).
Date/Pages 81 ; 873p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208849**
Hard Copy JEM Research, Discovery Park, P.O. Box 1700, Victoria, B.C. V8W 2Y2, Canada ($75.00)

Abstract

This manual is intended to provide educators with information and guidelines for locating, selecting, and purchasing commercially available courseware for the Apple II microcomputer. A courseware index is provided which lists programs in broad subject areas and grade levels. Information given for each program includes its DOS, language, cost, publisher, and distributor, as well as a short description. This index can be used to locate commercially available programs in a particular subject area and for a specific grade level. Catalogs from 63 publishers and producers of microcomputer courseware are included, as well as an alphabetized list of the addresses of more than 200 publishers, distributors, and manufacturers of computer products. An annotated bibliography of microcomputer journals, magazines, and newsletters provides descriptions of the publications, the addresses and yearly subscription rates, and comments on the general usefulness of the publications. A list of selected compatible accessories and expansion options for the Apple II is also provided. (Author/LLS)

Title **Evaluator's Guide for Microcomputer-Based Instructional Packages.**
Orig. Inst. Northwest Regional Educational Lab., Portland, Oreg.
Date/Pages 81 ; 61p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED206330**

Abstract

This guide developed by MicroSIFT, a clearinghouse for microcomputer-based educational software and courseware, provides background information and forms to aid teachers and other educators in evaluating available microcomputer courseware. The evaluation process comprises four stages: (1) sifting, which screens out those programs that are not instructional in nature and determines a package's operational readiness and hardware compatibility; (2) package description, including program format, instructional purpose and technique, type of package, available documentation, and the hardware configuration necessary for operation; (3) courseware evaluation, i.e., an assessment of the content, instructional quality, and technical quality of the package; and (4) in-depth evaluation, which is not described in this guide. Forms for the second and third phases are provided, together with explanations of the kinds of information needed and discussions of some of the factors to be considered in completing certain sections of the forms. Definitions of 15 terms are provided in the introductory section. (CHC)

Author(s) Douglas, Shirley; Neights, Gary
Title **Instructional Software Selection: A Guide to Instructional Microcomputer Software. Microcomputers in Education Series.**
Orig. Inst. Pennsylvania State Dept. of Education, Harrisburg. ; 33p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205201**

Abstract

This guide for evaluating microcomputer instructional software includes a hardware/software interface analysis sheet which can be used to determine if the software being evaluated is compatible with the hardware on which it will be used. Also provided is an instructional software evaluation form for use in making judgments about (1) specific instructional objectives, (2) grade level, (3) validation data, (4) correlation data, (5) instructional strategies employed in the software, and (6) instructional design features. Appendices include a listing of seven computer users' groups and local computer clubs in California, Ohio, and Pennsylvania; a listing of eight computer software libraries; a short bibliography of resources; and a list of organizations concerned with computer assisted instruction. A glossary of terms dealing specifically with microcomputer software is also appended. (LLS)

Author(s) Heck, William P.; And Others
Title **Guidelines for Evaluating Computerized Instructional Materials.**
Orig. Inst. National Council of Teachers of Mathematics, Inc., Reston, Va.
Date/Pages 81 ; 30p.

Source(s)
Hard Copy National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 22091 ($3.75; Individual members, bookstores, or orders of 10 or more copies earn a 20% discount off list price).

Abstract

This guide, prepared under the direction of the Instructional Affairs Committee of the National Council of Teachers of Mathematics (NCTM), is designed to serve all educators interested in the instructional applications of computers. Its development has been marked by a continuous, conscious effort to address the needs of all educators irrespective of their areas of interest, subject matter, or present level of involvement with instructional computing. The guide meets three tasks: (1) it provides information about the location, selection, and evaluation of computerized materials; (2) it reports this information in small sections; and (3) it defines five paths, called "tour groups," for using the guide that are defined in terms of the reader's instructional computing skills and goals. The sections to the guide are titled: (1) A Guide to These Guidelines; (2) What, Why, and for Whom; (3) Obtaining Software and Documentation; (4) Getting Hardnosed about Software: Guidelines for Software Review; (5) Communicating with Posterity: Guidelines for Software Documentation; (6) Asides to the Instructional Programmer; (7) Next Steps; and (8) Extra Forms. (MP)

Title **School Microware: A Directory of Educational Software. Over 500 Programs/Packages for APPLE, PET, TRS-80.**
Orig. Inst. Dresden Associates, Dresden, Maine.
Date/Pages Sep 80 ; 52p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED196431**
Hard Copy Dresden Associates, P. O. Box 246, Dresden, ME 04342. (Subscription-$20.00/year, Directory Issue, September $14.00 plus $4.00/each update.)

Abstract

This preliminary directory represents the offerings of 45 software suppliers and information about instructional software currently available for three microcomputers widely used in schools. It is geared towards a wide variety of users including school planners contemplating microcomputer acquisition, teachers planning courses and curricula, media center personnel, schools of education, and home computer users. The directory is organized as follows: (1) software descriptions in sequence by school department, subject, and lowest grade level; (2) summary listings of software for individual hardware systems, in the same sequence as the first section; (3) an alphabetical listing of software suppliers and their addresses; and (4) a glossary of terms used. Software descriptions include the program name, department, subject, grade level range, program type, and functional description, as well as intended hardware system(s), source, and retail price. The summary listing contains only the program name, grade level range, functional description, and an identification number which refers back to the more complete entry in the first section. (Author/MER)

Author(s) Braun, Ludwig
Title **Some Bases for Choosing a Computer System: Suggestions for Educators. Technical Report No. 2.**
Orig. Inst. State Univ. of New York, Stony Brook. Coll. of Engineering.
Date/Pages 1 Aug 78 ; 52p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED191732**

Abstract

This report reviews four different computer systems that are available for educational use. Presented is a system overview, and the strengths and weaknesses of each of the following systems: PLATO, TERAK, Compucolor II, and PET. Each of these machines is included as a representative of a "class" of machines available to the educator. Their selection for review is not intended as an endorsement, but rather to permit specificity in discussions of properties. The report looks at the characteristics of each of these machines as they pertain to educational applications, to aid educators in evaluating computer systems, and in making a good choice from among the multitude of systems offered in the marketplace. This document concludes with a comparison among these four computers based upon a set of 25 educationally important parameters and a glossary of technical computer-related terms. (MP)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Title **The VIC-20; The Sinclair ZX81; Radio Shack's Color Computer; The Atari 400**
Jour. Citation Popular Computing; v1 n7 p74-78; p80-86; p88-94; p96-102 May 1982
Abstract
These four articles describe and evaluate four microcomputer systems. Includes hardware, operation, peripheral devices, software and other features.

Title **The IBM Personal Computer; The Radio Shack TRS-80 Pocket Computer**
Jour. Citation Popular Computing; v1 n5 p24-35; p38-42 Mar 1982
Abstract
These two articles describe and evaluate the features and performance of the IBM Personal Computer and the Radio Shack TRS-80 Pocket Computer.

Author(s) Desposito, Joe
Title **Computers, Which One is for You? Personal, Professional, Educational, Small Business**
Jour. Citation Popular Electronics, p46-60 May 1982
Abstract
Provides an overview of the many different uses for microcomputers and the major branches of the market. Emphasizes that the selection of hardware must be a direct result of analysis of jobs to be performed. Includes a checklist for comparing capabilities of different computers.

Author(s) Berger, Ivan
Title **How to Buy a Disk System**
Jour. Citation Popular Computing; v1 n6 p92-96 Apr 1982
Abstract
Describes floppy disk information storage systems and discusses capabilities and advantages of floppy disks for microcomputer users. The functions of disk operating systems (DOS) are reviewed and the effect of DOS formats on the choice of an appropriate disk drive system is outlined. (JL)

Author(s) Miastkowski, Stan
Title **Small Computer Printers: Evolution, Competition, and Innovation**
Jour. Citation Popular Computing; v1 n8 p66-77 Jun 1982
Abstract
Briefly describes the history of computer printers, discusses recent developments, and outlines some of the potential characteristics of future printers. Included are a glossary of terms commonly used to describe various features of printers and a table listing the manufacturers' addresses, specifications, and costs of over 150 currently available printers. (JL)

Author(s) Matthews, John I.
Title **Considerations in Selecting Microcomputers for Instructional Design.**
Jour. Citation Journal of Industrial Teacher Education; v19 n1 p26-35 Fall 1981

Evaluation/Selection Journal Articles

Abstract
Suggestions are made for choosing microcomputers for instructional design. Elements discussed include hardware (system components, selection procedures, operations and hardware); equipment suppliers; software development (database management, simulation); and implementation (acquisition of hardware, probable difficulties). (CT)

Author(s) Fratini, Robert C.
Title **Buyer's Guide to Computer Based Instructional Systems.**
Jour. Citation Performance and Instruction; v20 n10 p17-20 Dec 1981
Abstract
Examines the advantages and disadvantages of shared multiterminal computer based instruction (CBI) systems, dedicated multiterminal CBI systems, and stand-alone CBI systems. A series of questions guide consumers in matching a system's capabilities with an organization's needs. (MER)

Author(s) Kansky, Bob; And Others
Title **Getting Hard-Nosed About Software: Guidelines for Evaluating Computerized Instructional Materials.**
Jour. Citation Mathematics Teacher; v74 n8 p600-04 Nov 1981
Abstract
Guidelines and steps for reviewing and selecting computerized instructional materials are reviewed. (MP)

Author(s) Deeson, Eric
Title **The Sinclair ZX81--Toy or Treasure?**
Jour. Citation Physics Education; v16 n5 p294-95 Sep 1981
Abstract
Describes features and uses of the ZX81 microcomputer developed by Clive Sinclair. Includes a sample run and indicates that, although it is inexpensive, it can stand up against microcomputers costing several times as much. (SK)

Author(s) Aiken, Robert M.
Title **The Golden Rule and Ten Commandments of Computer Based Education (CBE).**
Jour. Citation Technological Horizons in Education; v8 n3 p39-42 Mar 1981
Abstract
Examines ten factors that people selecting and using computers in the classroom should consider if the system is to be most effectively utilized as a teaching tool. Topics include personnel, materials, services, and equipment. (DC)

Author(s) Hudson, William J.
Title **Computer-Based Training (CBT): Buying Criteria.**
Jour. Citation CTM: The Human Element; v14 n2 p27-29 Aug 1981
Abstract
Lists some criteria that should be considered before purchasing any computer-based training product or service. Points out some negative economic ramifications that result from not consulting this or a similar list of criteria. (CT)

Author(s) Smith, Lorraine
Title **Choosing a Computer for Education.**
Jour. Citation Popular Computing; v1 n2 p108 Dec 1981
Abstract
Computer expert Douglas Gale gives school personnel advice on obtaining small computers, with emphasis on cost effectiveness and maintenance considerations. (SJL)

Author(s) Delf, Robert M.
Title **Primer for Purchasing Computer Programs: Part 2.**
Jour. Citation American School and University; v54 n1 p30-31 Sep 1981
Abstract

The second article in a series of three to help purchasers obtain the best computer programs for their budgets, deals with bid solicitation and software evaluation. The first article appeared in the July 1981 issue. (Author/MLF)

Author(s) Lathrop, Ann; Goodson, Bobby
Title **How to Start a Software Exchange.**
Jour. Citation Recreational Computing; v10 n2 p24-26 Sep-Oct 1981
Abstract

Describes the microcomputer display center and SOFTSWAP program developed by the San Mateo County (California) Office of Education and the Computer Using Educators' group. SOFTSWAP disseminates teacher-produced, public domain courseware and is beginning evaluations of commercial products. Journal availability: People's Computer Company, Box E, Menlo Park, CA 94025. (SJL)

Author(s) Kellisch, Frederick J.
Title **Computer Graphics on a Shoestring.**
Jour. Citation Instructional Innovator; v26 n6 p19-23,38-39 Sep 1981
Abstract

Provides a brief discussion of the graphics capabilities of microcomputers and describes specific graphics hardware and software that are available for the more popular microcomputers. The names and addresses of the producer/distributor and prices are given for each item. (CHC)

Author(s) Jones, Milbrey L.; Simmons, Beatrice
Title **Utilizing the New Technologies in School Library Media Centers: A Report to the Association.**
Jour. Citation School Media Quarterly; v9 n4 p231-34 Sum 1981
Abstract

This report on the special session held by the American Association of School Librarians during the 1981 ALA midwinter meeting focuses on the use of microcomputers, videodiscs, and other forms of the newer technologies in school library media centers. Guidelines for selecting software and sources for additional information are included. (Author/RAA)

Author(s) Eldredge, Bruce; Delp, Kenneth
Title **Software: How to Evaluate Educational Computer Programs.**
Jour. Citation Media and Methods; v17 n7 p4,15 Mar 1981
Abstract

Discusses the diagnostic function and adaptability factor of computer-assisted instruction, computer-managed instruction, computer games, and computer simulations. (FL)

Author(s) Poppelbaum, T. L.
Title **Match Your New Computer to Your Needs.**
Jour. Citation onComputing; v3 n1 p30-34 Sum 1981
Abstract

Presented is a personal computer computer-analysis system to help the consumer decide which microcomputer best suits his needs. (KC)

Author(s) Callison, William
Title **The Potential Is Great: Problems and Possibilities for Computer-Assisted Instruction.**
Jour. Citation NASSP Bulletin; v65 n445 p24-28 May 1981

Abstract
Four systems for computer-assisted instruction are explained and compared here: the PLATO, the TICCIT, the TRS 80, and the Apple II. (JM)

Author(s) Petrakos, Pamela
Title **Rushing toward Courseware.**
Jour. Citation 80 Microcomputing; n16 p74,79-81 Apr 1981
Abstract
Looks at current efforts by several major textbook publishers to produce microcomputer-based computer-assisted-instruction materials and discusses attitudes some of these publishing houses are taking toward the growing educational software market. Journal availability: 1001001 Inc., 80 Pine Street, Peterborough, NH 03458. (SJL)

Author(s) Carter, Jim A., Jr.
Title **How to Buy Microcomputers...and How & Where to Use Them.**
Jour. Citation School Shop; v40 n8 p28-33 Apr 1981
Abstract
Discusses factors to be considered in the selection of microcomputers for school use (components, cost, reliability, serviceability, who will use them, applications, input and output requirements, processing, storage, etc.), and describes the development of a computer area for a multiple activity lab. (CT)

Author(s) Gull, Randall L.
Title **A Successful Transition from Mini- to Microcomputer-Assisted Instruction: The Norfolk Experience.**
Jour. Citation Educational Technology; v20 n12 p41-42 Dec 1980
Abstract
Reviews reasons for the decision to change from a timeshare minicomputer to microcomputers, financial considerations involved, the purchase of hardware, the problem posed by the lack of compatible software for the microcomputers, and the development of the Assisted Instructional Development System (AIDS) for adapting minicomputer software and authoring additional lessons. (MER)

Author(s) Caldwell, Robert M.
Title **Guidelines for Developing Basic Skills Instructional Materials for Use with Microcomputer Technology.**
Jour. Citation Educational Technology; v20 n10 p7-12 Oct 1980
Abstract
Presents specific guidelines for designing instructional programs that will be delivered on microcomputers so that these programs will use the capacity of the microcomputer system in a way that will develop in learners a range of cognitive skills and help learners to evolve useful learning strategies. (Author)

Title **Resources Are Macro for Micros.**
Jour. Citation Instructional Innovator; v25 n6 p29-31 Sep 1980
Abstract
Lists names and addresses of a sampling of manufacturers, software distributors, magazines, and book publishers specializing in commercial resources for microcomputers. (LLS)

Author(s) Milner, Stuart D.
Title **How to Make the Right Decisions about Microcomputers.**
Jour. Citation Instructional Innovator; v25 n6 p12-19 Sep 1980
Abstract
Details factors related to the selection of microcomputer systems for computer-based instruction, including cost-effectiveness, instruction improvement and enhancement, and projected use.

Descriptions of Apple, Atari, PET, Sorcerer, Terak, Texas Instruments, and TRS-80 are included along with a glossary of microcomputer related terms. (LLS)

Author(s) Morgan, Chris
Title **The Texas Instruments 99/4 Personal Computer.**
Jour. Citation onComputing; v2 n2 p29-30,32-33 Fall 1980
Abstract
This product review describes and evaluates the features of the TI 99/4 (including its speech synthesizer), its costs, peripherals, and software. (SJL)

Author(s) Bitter, Gary
Title **Computers and Computer Resources.**
Jour. Citation Teacher; v97 n5 p62-63 Feb 1980
Abstract
This resource directory provides brief evaluative descriptions of six popular home computers and lists selected sources of educational software, computer books, and magazines. For a related article on microcomputers in the schools, see p53-58 of this journal issue. (SJL)

Title **The Computer Shopping Guide.**
Jour. Citation Instructor; v89 n8 p88-90 Mar 1980
Abstract
This guide provides a chart describing and rating the features of eight 16K microcomputers: Apple II, Atari 800, Commodore PET, Compucolor Mod III, Exidy Sorcerer, Ohio Scientific C4PMF, Tandy TRS-80 Level II, and Texas Instruments 99/4. A glossary of microcomputer terminology and a resource directory are appended. (SJL)

Author(s) Wood, R. Kent; Wooley, Robert D.
Title **So You Want to Buy a Computer?**
Jour. Citation Instructor; v89 n8 p86 Mar 1980
Abstract
Presents a list of questions about costs and program needs that an educator should consider before purchasing a microcomputer. (SJL)

Author(s) Joiner, Lee Marvin; And Others
Title **Potential and Limits of Computers in Schools.**
Jour. Citation Educational Leadership; v37 n6 p498-501 Mar 1980
Abstract
Advice on the purchasing and use of computers in schools. (Author/MLF)

Author(s) Braun, Ludwig
Title **Some Bases for Choosing a Computer System: Suggestions for Educators.**
Jour. Citation Journal of Educational Technology Systems; v8 n1 p7-30 1979-80
Abstract
This guide in the selection of instructional computer systems compares four systems representing different cost categories in terms of 25 parameters. Costs and benefits of each system are enumerated, and problems associated with cost benefit analysis are discussed. (Author/JEG)

Books

The following books may be obtained from your school IMC, public library, or directly from the publisher.

Author(s)	Webster, Anthony
Title	**Webster's Microcomputer Buyer's Guide**
Publisher	Hayden Book Company
Date/Pages	81; 326 p.
Source	Hayden Book Co., 50 Essex St., Rochester Park, NJ 07662 ($25.00)

Abstract

This is a detailed guide to microcomputers and related equipment. There are four parts: Theory and Application; Independent Software Vendors; Microcomputers; and CRT Displays, Printers and Printing Terminals. In addition to a general introduction on microcomputers, Part I outlines capabilities of microcomputers in business and education. Part II discusses various software systems, languages and applications. Part III discusses specific microcomputer systems, their equipment, pricing and capabilities. Part IV lists specifications for several CRT units, printers and printing terminals which can be used with microcomputers.

Title	**Microcomputer Courseware/Microprocessor Games; EPIE Materials Report 98/99m**
Publisher	EPIE Institute
Date/Pages	1981; 54 p.
Source	EPIE Institute, Box 620, Stony Brook, NY 11790 ($25.00)

Abstract

EPIE (Educational Products Information Exchange) Institute, a non-profit educational consumer group publishes descriptive and analytic information about educational products. This report on microcomputer courseware addresses the issue of what makes effective instructional software. It includes criteria which were used by EPIE to judge software and a glossary of instructional computing terms. These evaluations are the first of courseware analyses which will be produced by EPIE and the Microcomputer Resource Center at Columbia University. This project will focus on large commercial courseware packages. Six courseware packages and eight microprocessor games are evaluated.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Author(s) Nordman, R.; Parker, J.
Title **Teaching Computer Literacy in an Elementary School: A Comparison of Two Methods of Using Microcomputers.**
Orig. Inst. Educational Research Institute of British Columbia, Vancouver.
Date/Pages Sep 81; 165 p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED213400**
Abstract

This report compares two methods of teaching BASIC programming used to develop computer literacy among children in grades three through seven in British Columbia. Phase one of the project was designed to instruct children in grades five to seven on the arithmetic operations of writing simple basic programs. Instructional methods include using job cards, program cards, and large group instruction, and each student was allowed to spend an equal amount of time on the computer. Phase two was also designed to teech arithmetic operations of basic programming, but this time worksheets and take home assignments were the major instructional tools used with children in grades three through five. Moreover, students were only allowed to use the microcomputers as needed to complete assignments. Results indicate that children from both groups made gains in their comprehension of programming, but that this is not necessarily related to age or instructional methods. It was concluded that LOGO type languages may be better for working with elementary school students, with BASIC being reserved for more advanced stages of instruction. The report includes pre- and posttests, scores, job cards for lessons, and background material for teaching computer literacy prior to programming.(MER)

Author(s) Neufeld, Helen H.
Title **Reading, Writing and Algorithms: Computer Literacy in the Schools.**
Date/Pages Jan 82 ; 10p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED211959**
Abstract

Given the state of the art of computing in 1982, it is not necessary to know a computer language to use a computer. Three aspects of the current state of computing make it mandatory that educators from elementary through postsecondary levels rapidly incorporate this skill into the curriculum: (1) computers have permeated society--they are used in virtually every business; (2) they have begun to compete with schools for the attention of young people, as evidenced by the popularity of video games; and (3) they have potential as teaching tools. If this potential could be utilized, then the problem of the need for computing skills could be addressed early in the educational process, and educators might meet the competition of computer games. Since the individual teacher need not write computer programs, all that remains for educators is to obtain the computer and the programs and find someone who will demonstrate their use. Two invaluable resource persons are present in almost every community--the computer-knowledgeable parent, and the computer "whiz kid" from the local high school or university. The parent can give advice on obtaining computer hardware and the student can help "debug" commercial programs, as well as incorporate the instructor's ideas into programs written by others. (HOD)

Author(s) Beck, John J., Jr.
Title **Computer Literacy for Elementary and Secondary Teachers.**
Date/Pages 5 Nov 80 ; 17p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208868**
Abstract

A discussion on the impact of the information explosion on society provides the context for this paper's examination of procedures for designing the first stage of a systematic plan to incorporate computer technologies in elementary and secondary schools. Based on the rationale that a computer literate faculty must be available to make decisions on effective computer use, the paper discusses the roles that teachers and computers will play in educating students in the 21st century. Citing the need to match instructional and learner objectives, a paradigm for training teachers to be computer literate is recommended as the initial step in achieving that goal. Categories outlined for this initial introduction include information systems, information collection and retrieval, communications with a computer, computers in the marketplace, and computers in education. Suggested activities for generating additional competencies would include programs on: (1) the automatic control of processes, (2) the concept of input-process-output, (3) coding systems, (4) preparation of input and interpretation of output, (5) using computer program packages, and (6) hardware and software in context. Sixteen references are cited. (MER)

Author(s) Wright, Annette
Title **Developing Standards and Norms for Computer Literacy. Discussion Paper 06/80.**
Orig. Inst. British Columbia Dept. of Education, Victoria. Information Service.; JEM Research, Victoria (British Columbia).
Date/Pages Jul 80 ; 75p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208847**
Abstract

This paper provides educators with a general perspective on computer literacy and an in-depth examination of the Computer Literacy Awareness Assessment conducted by the Minnesota Educational Computing Consortium (MECC). Addressing computer literacy as part of the ongoing use of computers in a classroom setting is identified as the most reasonable approach for introducing computer literacy to British Columbia. Computer literacy is then defined and discussed in terms of specific experiences or desired outcomes of literacy. The remainder of the paper discusses the development of the Minnesota Assessment, including purposes of the test and its structure. The test comprises three parts: (1) affective assessment--six scales of five items each; (2) cognitive test--53 true/false or multiple choice items; and (3) survey of background variables--37 items. The appendices include the validation of the test; administration and scoring norms; a priori cognitive sub-test; revised cognitive sub-tests; reliabilities, means and standard deviations for cognitive sub-tests; intercorrelations and percentile norms of cognitive sub-test and revised sub-test; affective scales; and Computer Literacy Questionnaire. (CHC)

Author(s) Papert, Seymour; And Others
Title **Final Report of the Brookline LOGO Project, Part II: Project Summary and Data Analysis. Artificial Intelligence Memo No. 545.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages Sep 79 ; 223p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207801**
Hard Copy Artificial Intelligence Lab., 545 Technology Square, Rm. 338, Cambridge, MA 02139 ($4.00).
Abstract

During the school year 1977-78, four computers equipped with LOGO and Turtle Graphics were installed in an elementary school in Brookline, Massachusetts. All sixth-grade students in the school had between 20 and 40 hours of hands-on experience with the computers. The work of 16 students was documented in detail. The volume includes: (1) an overview of the Brookline LOGO project; (2) a description of the learning styles of different students who took part in the project; (3) the experience of students at both extremes of the range of abilities present in a typical public school; (4) a breakdown of the computer programing skills and concepts learned by the students during the course of the project; (5) a breakdown of the mathematical and geometrical skills and concepts learned by the students during the course of the project; and (6) a description of the results of a brief exposure of students to a dynamic turtle which simulates Newtonian motion. (Author)

Author(s) Hunter, Beverly
Title **Computer Literacy.**
Date/Pages 27 Apr 81 ; 13p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207617**
Abstract

The concept of computer literacy is examined as it applies to two-year colleges. The paper begins with definitions of the term, emphasizing the skills, knowledge, and attitudes toward computers that are considered criteria for computer literacy. The paper continues by describing a conference at which educators attempted to visualize the technology of the future and its implications and by listing areas in which these educators were successful (e.g., predicting the intelligent videodisc) and unsuccessful. Next, six reasons why a broad base of computer literacy is needed are examined, including reasons related to the changing economy, the changing nature of jobs, promotion of equity in access to computers, world competition, the need to encourage student skills, and the need to understand issues of public policy for technology. The paper then suggests priorities for planning computer literacy programs, which include, in order of importance, enhancing the computer literacy of educational administrators, planning curricula for the use of the computer, purchasing hardware and software to support the curricula, supporting faculty members who encourage computer literacy, supporting academic computing facilities, gaining assistance from industry, and fostering computer literacy at pre-college levels. The paper concludes with a projected profile of the computer-literacy level of the entering college class of 1985, which foresees a wide variation in experience with computers. (KL)

Author(s) Solomon, Cynthia J.
Title **Leading a Child to a Computer Culture. AI Memo 343.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages 4 Dec 75 ; 7p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207575**
Abstract

This paper describes the way in which a child is introduced to LOGO, which is both a programming language and an environment or a way of thinking about computers and about learning. After a brief description of the devices used by LOGO, the process of acquainting a student with the system is explained. The strong anthropomorphization of components of the LOGO system is discussed, with emphasis on the computer controlled mechanical turtles and display turtles used in the system. Also discussed is the importance of having children learning to use LOGO to think of their projects as research enterprises. The 23 references listed include 11 working papers, memos, and reports on LOGO. (LLS)

Author(s) Mayer, Richard E.
Title **Contributions of Cognitive Science and Related Research on Learning to the Design of Computer Literacy Curricula. Report No. 81-1. Series in Learning and Cognition.**
Orig. Inst. California Univ., Santa Barbara. Dept. of Psychology.
Date/Pages Dec 80 ; 35p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207551**
Abstract

A review of the research on techniques for increasing the novice's understanding of computers and computer programming, this paper considers the potential usefulness of five tentative recommendations pertinent to the design of computer literacy curricula: (1) provide the learner with a concrete model of the computer; (2) encourage the learner to actively restate the new technical information in his or her own words; (3) assess the learner's existing intuitions about computer operation and try to build on or modify them; (4) provide the learner with methods for chunking statements into smaller, meaningful parts; and (5) provide the learner with methods for analyzing statements into smaller, meaningful parts. It is concluded that, while results of cognitive research provide qualified support for the first two recommendations, more active research is needed on the other three. A bibliography lists 59 references, and appendices include seven statements used in a BASIC-like instructional booklet, examples of six types of test problems for a BASIC-like language, an example of an elaboration exercise, and data from a study included in the review. (MER)

Author(s) Seidman, Robert H.
Title **The Effects of Learning a Computer Programming Language on the Logical Reasoning of School Children.**
Date/Pages 14 Apr 81 ; 63p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205206**
Abstract

The research reported in this paper explores the syntactical and semantic link between computer programming statements and logical principles, and addresses the effects of learning a programming language on logical reasoning ability. Fifth grade students in a public school in Syracuse, New York, were randomly selected as subjects, and then randomly placed in either the experimental or the control group. The experimental group was taught LOGO, a programming language developed for use with young children, while the control group received no special instruction. At the end of the treatment period, both groups were administered a series of tests measuring their conditional reasoning abilities. Tests were scored in two distinct ways, and the two groups were statistically compared within both scoring schemes by split-plot two-factor repeated measures and one-way analysis of variance. It was found that students in the experimental group who interpreted conditional logic statements biconditionally performed significantly better on the inversion fallacy principle than the control group; no significant difference was found when test items were scored in the traditional manner. Comparison of pre- and post-experiment achievement test scores showed a significant improvement in reading only for the control group. Some areas for further research are suggested, and a 64-item bibliography is attached. (MER)

Author(s) Romberg, Thomas A.; Price, Gary G.
Title **Assimilation of Innovations into the Culture of Schools: Impediments to Radical Change.**
Date/Pages Jan 81 ; 31p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED202156**
Abstract

Successful introduction of school computer literacy programs, necessary in today's worldwide computer revolution, must take into account the nature both of this innovation and of school culture. Computer literacy will be a radical rather than ameliorative innovation and will challenge school culture. Hence an innovator must ensure that educators, parents, and community groups understand the program's effects on the three institutional dimensions of school culture--teacher and student work, knowledge distribution, and teacher professionalism and expertise. Social science models of planned educational change have proven inadequate for implementing innovations, but they have identified factors an innovator should consider, such as activity coordination, school social structure, and users' needs. Innovation implementation must involve actual change, not merely nominal change. Actual school change, however, should be "constructive," where both new routines and the principles behind them are adopted, rather than "mechanical" or "illusory," where only labels and routines are incorporated. Based on these concepts, an innovator should (1) use proven methods of introducing new school programs; (2) identify the school cultural traditions challenged by the innovation; and (3) base monitoring techniques on a causal model that specifies what should be observed. (RW)

Author(s) Hunter, Beverly
Title **An Approach to Integrating Computer Literacy Into the K-8 Curriculum.**
Orig. Inst. Human Resources Research Organization, Alexandria, Va.
Date/Pages Oct 80 ; 12p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED195247**
Abstract

The goal of the research and development project described is to make it possible for students in grades K-8 to acquire at least minimal computer-related skills. The report gives the long range goals of the project, perceptions on the need for a computer literacy program, recommendations of approaches for satisfying that need, and the pros and cons of a K-8 infusion approach to computer literacy. A series of curriculum guides for the K-8 computer literacy program for use by school administrators, media center people, teachers for grades K-8, and subject coordinators will be produced before the termination of the project, scheduled for September 1983. (MER)

Author(s) Allenbrand, Bob, Ed.; And Others
Title **Course Goals in Computer Education, K-12.**
Orig. Inst. Tri-County Goal Development Project, Portland, Oreg.
Date/Pages 79 ; 217p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED194074**
Hard Copy Commercial-Educational Distributing Services, P.O. Box 8723, Portland, OR 97208 (Pub. No. 617, $13.50).

Abstract

Designed to be used in conjunction with a school district's educational goals and focusing on what is to be learned rather than the methodology to be used, the program and course goals presented here are intended as guidelines for planning and evaluating elementary and secondary school curricula in computer education. Of four possible levels of goals, only program (general outcomes) and course (specific outcomes) goals are included, leaving the use of behavioral and/or planning objectives optional at the classroom teacher level. Two taxonomies are provided: the first describes the three types of goals in this collection--knowledge (information), process (skills and abilities), and values (attitudes and opinions); the second classifies a specific subject (computer education) into components (e.g., computer systems, hardware, software, applications). Program goals are listed for both career and computer education, and course goals are given for values and computer education, processes of inquiry and problem-solving, basic education and computer education, computer systems, calculators, computer hardware, computer software, computer applications, computer uses in business and industry, history of computer development, computer science, and computer education and careers. A concept list, an index to computer-related issues, and a subject index are attached. (MER)

Title **Computer Literacy Program Briefs.**
Orig. Inst. Human Resources Research Organization, Alexandria, Va.
Date/Pages 78 ; 20p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED193022**

Abstract

Computer Literacy Program Briefs for seven schools and/or school districts are presented. Topics covered in each brief include: the institution or institutions covered, the educational program strategies, the target student audience, major components of the instructional program, illustrative examples of specific objectives, organization of the instructional package, facilities and equipment used, the nature and extent of teacher training, classroom activities and resource materials, and the impact and effect of the computer literacy program. (MP)

Author(s) Dunlap, Mike; And Others
Title **Computers and Computer Literacy in the Algebra I and the Trigonometry Classroom. OCCE Special Report.**
Orig. Inst. Oregon Council for Computer Education, Portland.
Date/Pages Sep 74 ; 34p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED188861**

Abstract

The two sections found in this publication, "Integrating Computer Literacy With Existing Classes" and "Guide to Computer Augmented Trigonometry," were written by participants in two summer courses at the University of Oregon. The first section addresses the general topic of teaching computer literacy through existing classes, then it focuses on the specific course Algebra 1, including several specific examples of activities. The second section includes a variety of suggestions for using computers in trigonometry. While the main emphasis is on learning traditional course content, the student can also gain knowledge of the use of computers in mathematics in general. (MK)

Author(s) Dennis, J. Richard
Title **Teacher Education in Use of Computers. The Illinois Series on Educational Application of Computers, No. 1e.**
Orig. Inst. Illinois Univ., Urbana. Dept. of Secondary Education.
Date/Pages 79 ; 23p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED183181**
Abstract

Two model programs have been developed for preservice and inservice training of teachers in the instructional applications of computers. The preservice model features a background in computer science, foundations of instructional computing using a total school view and content specific view, a task-centered practicum in instructional computing, and practice teaching. The inservice training model consists of three stages: (1) initial literacy, (2) implementation, and (3) maintenance or growth. Curriculum maps are provided for both programs and three references are listed. (CMV)

Author(s) Rice, Jean M.
Title **Computer Education in the Edina, Minnesota, Elementary Schools.**
Date/Pages Apr 75 ; 14p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED168562**
Hard Copy T.S. Denison & Co., 9601 Netwon Avenue, Minneapolis, Minnesota 55431 (Text, $2.98 and Teachers' Guide, $15.00)
Abstract

This computer literacy project, which was carried out with a group of fifth grade students, was designed to provide them with an enjoyable experience in learning about the computer through such activities as interactive programs, games, discussions, interviews, and field trips. Course content covered the history of computers, computer components, applications, flowcharting, and an introduction to programming. Student, parent, and staff surveys were conducted to determine the viability of the project. This project provided the basis for a computer literacy text, "My Friend the Computer," by Jean M. Rice. (RAO)

Title **REACT II: Computer-Oriented Curriculum. Description of Teacher Inservice Education Materials.**
Orig. Inst. National Education Association, Washington, D.C. Project on Utilization of Inservice Education R & D Outcomes.
Date/Pages Jun 78 ; 8p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED167560**
Abstract

The inservice program described here is designed for teachers who wish to investigate how computers may be applied in various subject areas, including business education, English, mathematics, science, and social studies. Nine booklets are the basic learning tools for REACT II (Relevant Educational Applications of Computer Technology). This program description provides information on the purposes and content of the materials as well as activities and resources involved. A critique, history of development, and ordering information are also included. (DS)

Title **Computer Education Guide.**
Orig. Inst. Newark School District, Del.
Date/Pages Aug 76 ; 64p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED158729**
Abstract

Recognizing the need of all students for awareness of nature and functions of the computer in modern society, as well as computer literacy for those specializing in specific major fields, this guide was developed to aid secondary school teachers in determining how to integrate computer education in their courses. The first of the five goals presented addresses the general need for awareness for all students; remaining goals are concerned with both awareness of and involvement in computer applications in specific areas--the business field for all business students, the academic subject areas for all college-bound students, and more specialized applications for social-science oriented and science and mathematics oriented college-bound students. Educational and specific instructional objectives, suggested activities, strategies, topics, and notes are provided for each goal. A flow chart is included for determining which goals are applicable in specific courses. Appendices include lists of films and simulation activities relevant to specific academic areas which could be used to help meet these goals and objectives. (CMV)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Gress, Eileen K.
Title **A Computer-Literacy Module for the Junior High School**
Jour. Citation Arithmetic Teacher; v29 n7 p46-49 Mar 1982
Abstract

A framework for a computer literacy module is detailed, through a description of one that has evolved in schools in Fairport, New York. It is noted that the availability of computer literacy instructional materials is increasing substantially but a specific curriculum is sorely lacking.

Author(s) Kirchner, Alice M.
Title **One State's Approach to Computer Literacy.**
Jour. Citation Technological Horizons in Education; v8 n4 p43-44 May 1981
Abstract

Reports on a pilot project to introduce an introductory course in computer literacy for elementary through postsecondary students in Pennsylvania. Includes descriptions of course rationale and teacher training. (DC)

Author(s) Jones, Aubrey B., Jr.
Title **Computers Are Their Thing.**
Jour. Citation Technological Horizons in Education; v8 n1 p54-56,61 Jan 1981
Abstract

Describes a pilot project in Philadelphia which introduced seventh- and eighth-grade minority students to computers as a means of building their self-confidence and encouraging them to pursue careers in engineering and computer science. Includes partial course outline, evaluation methods, and tips for success. (DC)

Author(s) Firedrake, George; Zamora, Ramon
Title **My Computer Likes Me.**
Jour. Citation Popular Computing; v1 n1 p58,60,62,64,66 Nov 1981
Abstract

Presents a lesson plan for showing children how to operate a TRS-80 Color Computer. (SJL)

Author(s) Lopez, Antonio M., Jr.
Title **Computer Literacy for Teachers: High School and University Cooperation.**
Jour. Citation Educational Technology; v21 n6 p15-18 Jun 1981
Abstract

Describes a cooperative program in which high school teachers in Louisiana participated in a series of lectures and labs geared toward helping them use microcomputers in the classroom. Topics included hardware, computer-assisted instruction (CAI), programing, and program modification. (FM)

Author(s) Nelson, Harold
Title **Learning with Logo.**
Jour. Citation onComputing; v3 n1 p14-16 Sum 1981

Abstract
Described is a new computer language called LOGO and the use of personal computers with very young children at Dallas' Lamplighter School where computers are everywhere--one in each preschool and kindergarten room, two in each elementary classroom, and two in each shared space. (KC)

Author(s) Nelson, Harold; Friedman, Rich
Title **Seymour Papert: Spearheading the Computer Revolution.**
Jour. Citation onComputing; v3 n1 p10-12 Sum 1981
Abstract
Discussed are Seymour Papert's ideas about computers and their role in the educational process. He believes that present-day computers program, rather than teach, the child and has developed a simple and fun computer language called LOGO which lures children into learning by exploration and discovery. (KC)

Author(s) Roberts, Harold Pepper
Title **Linking Computer to Curriculum Starts with the Teacher.**
Jour. Citation Educational Computer Magazine; v1 n1 p27-28 May-Jun 1981
Abstract
Clover Park School District has planned a two-year phased-in implementation of microcomputers. This article describes the successes and problems encountered in the first year of the program, which focused on teacher training. Journal availability: Educational Computer, P.O. Box 535, Cupertino, CA 95015. (SJL)

Author(s) Targ, Joan
Title **Computer Tutors: An Innovative Approach to Computer Literacy. Part I: The Early Stages.**
Jour. Citation Educational Computer Magazine; v1 n1 p8-10 May-Jun 1981
Abstract
In Part I of this two-part article, the author describes the evolution of the Computer Tutor project in Palo Alto, California, and the strategies she incorporated into a successful student-taught computer literacy program. Journal availability: Educational Computer, P.O. Box 535, Cupertino, CA 95015. (Editor/SJL)

Author(s) L'Allier, James J.; Tennyson, Robert D.
Title **Principles of Instructional Design Applied to an Introductory Course on Educational Computing.**
Jour. Citation Journal of Computer-Based Instruction; v7 n2 p26-32 Nov 1980
Abstract
Identifies design variables directly related to the development of computer-based instruction (CBI) and shows how those variables can be applied in the actual development of a course. The design is for a computer literacy course concerned with both content and student attitudes about that content. (Author)

Author(s) Eisele, James E.
Title **A Case for Universal Computer Literacy.**
Jour. Citation Journal of Research and Development in Education; v14 n1 p84-89 Fall 1980
Abstract
Since computers are already involved in everyday activities and have increased in importance for problem-solving at home and at work, justification exists for universal computer literacy. Ethical considerations regarding production and consumption of computer services are being raised. (JN)

Author(s) Johnson, David C.
Title **Computer Literacy--What Is It?**
Jour. Citation Mathematics Teacher; v73 n2 p91-96 Feb 1980

Abstract

Computer Literacy Objectives developed by the Minnesota Educational Computing Consortium (MECC) computer literacy study are given. The objectives are grouped under the six headings: Hardware; Programing and Algorithms; Software and Data Processing; Applications; Impact; and Attitudes, Values, and Motivation. (MK)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **Instructional Computer Program**
Contact Person Robert Patton
Address 5000 W. Mequon Rd., 112N
Mequon, Wisconsin 53092
Telephone (414) 242-2414
Abstract

Mequon-Thiensville School District plans for all its students and teachers to become computer literate. Its three-year plan provides teacher training and flexible time for curriculum development and program implementation. Each elementary grade 3-8 will provide a minimum of ten hours of computer instruction (LOGO and BASIC). High school mathematics courses include four semesters of computer programing, with BASIC, FORTRAN, PASCAL and assembler languages. All grades K-12 have software for drill and practice, remediation, and enrichment. In the high school, guidance, administrative and support staffs use the computer, and the business education department teaches word processing and computer accounting. (SS)

Program **Computeronics: Gifted Child Project**
Contact Person Thomas Diener
State Facilitator
Address 125 South Webster Street
P.O. Box 7841
Madison, Wisconsin 53707
Telephone (608) 266-3560
Abstract

Computeronics provides students with a new perspective on computers. Students learn a simple programing language, use computers to solve problems, and see ways that computers are used in their lives. The course consists of two units. "Computers in Society" conveys information about the history of computers, their present and future uses, and computer- related careers. The text, in a magazine format, includes articles, photos, ads, and a glossary. "Problem Solving with Computers" teaches students to program using the BASIC computer language. Students use the computer to apply their programing skills in solving word problems. Students spend as much as 80% of their time reading, completing activities, and writing computer programs at their desks or at typewriters; the remaining time is spent at the computer. The course allows as many as ten students to work with a single computer. No specific make of computer is required. Computeronics uses a mastery learning approach. The management system included in student lesson books and activities allows students to work at their own pace. Teachers can be facilitative, directive, or both. (SS)

Program Evaluation

The program was evaluated by JDRP for use with gifted and high-achieving students in grades 6 and 7 in December 1980.

Funding Source(s)

Program development was funded by Title IV-C.

Program **A Computer Summer Camp Adaptation**
Contact Person Barry Bauschek
Address 120 East Harris
Appleton, Wisconsin 54913
Telephone (414) 735-6161

Abstract

Appleton's summer camp provides students and teachers with an appreciation and knowledge of computers and their applications, and some competence in BASIC computer programing. Participants demonstrate minimal programing competence by solving simple computer problems. The chosen computer summer camp model originated in Orange, Connecticut. Though designed for senior high school students and teachers, the camp included elementary and junior high teachers in 1982. (SS)

Cost of Implementation

The school district received a grant of $23,614.

Program **Summer Computer Workshop**
Contact Person Donald Holmen
Address School Drive
Waunakee, Wisconsin 53597
Telephone (608) 849-4104

Abstract

A summer computer workshop provides teachers with some background information on computers and helps them acquire some competence in BASIC computer programing. Based on a computer summer camp held in Appleton, Wisconsin, it is designed to allow participants who have little or no background in use of computers to explore the applications, limitations, hardware and software of microcomputers. Four workshops for sixty staff members were held during the project year. A K-12 district computer coordinators position was created as a result of the project. A K-12 literacy committee was formed to work during the summer of 1982. (SS)

Cost of Implementation

The district was awarded $23,958.

Program **Computer Workshop**
Contact Person Mel Selle
Address 410 S. Commercial
Neenah, Wisconsin 54956
Telephone (414) 729-6839

Abstract

A computer summer camp originated at Orange, Connecticut, informs students and teachers about computer applications in society and teaches minimal competence in BASIC computer programing. Activities are designed for teachers and students with limited computer backgrounds. Special attention is given to those students who do not have a strong math background, but who may be required to operate a computer while participating in a cooperative program or while at work following graduation. The program acquaints students with computer applications in business and industry. Teachers learn how to use computers for instruction. Students and teachers learn how the BASIC language is used in writing computer programs. The adapted model provides follow-up instruction during the school year to help participants apply their knowledge of computers. (SS)

Funding Source(s)

The program was funded by Title IV-C.

Cost of Implementation

The cost of this program is $24,473.

Program **Computers Are Elementary: Computer Summer Camp for Teachers**
Contact Person Michael A. Burke
Address 423 Division St.
Mukwonago, Wisconsin 53149
Telephone (414) 363-4990

Abstract

Successful implementation of a K-12 computer literacy curriculum will require faculty to obtain a minimum proficiency in the application of microcomputers to the classroom, to become familiar with computer hardware and software, to write their own curriculum-related program, and to gain minimum competency in writing a simple computer program to solve a problem. Adapted from a Computer Summer Camp in Orange, Connecticut, the "Computers Are Elementary" project provides public and private school teachers with hands-on computer experience. Objectives are: (1) to introduce computer concepts and techniques and provide a general appreciation of the power and limitations of computers; (2) to provide a technical, social, and moral perspective on present and future roles of computers in our society; (3) to transmit some competence in computer operations and programing in BASIC; (4) to provide experience with flowcharting, programing, hardware, software and library programs; (5) to stress computer applications in the classroom and the use of preprogramed software to reinforce basic skills in math, spelling, social science, etc.; (6) to get teachers to write their own computer-assisted instruction programs. (SS)

Funding Source(s)

This project was funded by a Title IV-C grant.

Cost of Implementation

A grant off $23,983 plus additional staff time was needed to implement this project.

Program **Adoption of a Comprehensive Computer Project**
Contact Person Ronald Jacobson
Box 100
Somerset, Wisconsin 54025
Telephone (715) 247-3355

Abstract

A program developed at Nathan Hale High School in West Allis, called "A Comprehensive Computer Project," was adopted in Somerset. Students in computer science classes become computer literate in programing, learn the history of computers, and learn about computer careers. In an introductory computer programing class, students learn BASIC language and computer literacy. Students in an advanced programing course work on projects in BASIC. Students and teachers from other departments are encouraged and aided to use the computer when it is available. Software is provided for teachers of other subjects to use in their classrooms. (SS)

Funding Source(s)

This project was funded by a Title IV-C grant.

Cost of Implementation

The project cost approximately $20,000.

Program **Computer Literacy**
Contact Person Dick Zimmerman
Address Church Street
Box 275
Rio, Wisconsin 53960
Telephone (414) 992-3141

Abstract

Rio Community School District's goal is to provide computer literacy for all its students. Programs have been adapted from high schools in Wisconsin Rapids and Mequon, Wisconsin. The four components used in Rio are teacher inservice, computer literacy, programing and data processing. The three-part inservice program totals thirty hours of instruction, available during regular inservice time. Computer literacy is taught as a two-week required unit in algebra, geometry and general math classes. Juniors and seniors can study computer programing as an elective in a sequence of three semester-long courses. Business data processing is another semester course elective, exploring uses of computers, computer languages, and data processing occupations. (SS)

Funding Source(s)

The program was funded by Title IV-C.

Cost of Implementation

The program cost the school district $24,837 to implement.

Program **Computers in the School District of La Crosse**
Contact Person Lee Wille
Address 807 East Avenue So.
La Crosse, Wisconsin 54601
Telephone (608) 785-0275

Abstract

The School District of La Crosse has begun a five-year plan to use computers in all areas. All teachers will become computer literate. All content areas will use computer assisted instruction. The current use of computers in guidance programs and computer programing courses at two high schools will continue. Computer applications will be taught in business and industrial education. And a computer literacy curriculum will be developed and implemented at all grade levels. A summer 1982 workshop trained "key people" who in turn will train all teachers during the school year in computer literacy and computer assisted instruction.

Cost of Implementation

The five-year plan does not call for hiring any additional staff. Cost estimates vary from $64,000 to $76,000, about half of which is for equipment purchases.

Program **Computer Literacy Project**
Contact Person Dr. Mary Ann Allen
Address 7106 South Avenue
Middleton, Wisconsin 53562
Telephone (608) 831-6071

Abstract

Teachers become familiar with computers before planning to teach about them in Middleton-Cross Plains' Computer Literacy Project. A one-week workshop, modeled on the Appleton Area School District's Computer Summer Camp, introduces computer technology to teachers who have little or no experience with computers. Staff then work intensively to formulate a district plan for incorporating computer literacy into the curriculum. (SS)

Funding Source(s)

The project was funded by a Title IV-C grant.

Cost of Implementation

The project cost $24,700 to implement.

Program **Plan for Utilizing and Implementing the Microcomputer at Longfellow Elementary School**
Contact Person Ruth Sather
Address 512 Balcom Street
Eau Claire, Wisconsin 54701
Telephone (715) 835-9312

Abstract

An elementary school media center helped develop a plan for the use of a microcomputer. A survey of teachers indicated the microcomputer would be useful in all grades in mathematics, social studies, science and language arts. The survey also identified available software and computer awareness activities. Teachers formed a software selection committee and were introduced to the microcomputer at a lunchtime demonstration. Students learned to operate the microcomputer and were scheduled for a weekly half-hour of individualized computer-assisted instruction. Primary grade students used the computer in groups for science, math and spelling. Gifted and talented students in grades 2 to 6 studied about computers and played the Oregon Trail simulation program. Two annotated bibliographies were compiled--one for teachers and one for students. A detailed, illustrated manual for students and teachers includes how to operate the microcomputer and get an "operator's license," how to write simple programs, and a glossary of computer terms. A computer club for fifth and sixth grade students is being organized. (SS)

Funding Source(s)

Initial funding was provided by the Parent Teacher Organization.

Cost of Implementation

Initial cost was $2000. Another $2000 was spent on software and a second computer.

Program **Computer Literacy Program**
Contact Person John E. Rasmus
Address 13th and Francis
Osseo, Wisconsin 54758
Telephone (715) 597-3141

Abstract

In the Computer Literacy Program, children learn the impact that computers have on them and their society. They learn about the parts and characteristics of computers and procedures for running a computer. The seventh and eighth grade curriculum teaches several commands and statements used in the BASIC programing language. The goal is for students to become computer literate, knowledgeable in terms of the principles, procedures, and limitations of computer systems, and able to use computers as a means of inquiry and problem solving. Material for teacher training is available. A great deal of expertise is not required to successfully teach the program. (SS)

Funding Source(s)

The program was funded by a Title IV-C grant.

Cost of Implementation

Cost factors include computers, video tapes, filmstrips, books and the program itself.

Program **West Bend Schools Computer Education**
Contact Person Kathleen Jefferson
Address 697 South 5th Avenue
West Bend, Wisconsin 53095
Telephone (414) 338-5400

Abstract

The West Bend computer education program has three components. First, students in grades 5 to 8 learn the capabilities of computers; appreciation of the computer as a tool in society; introductory programing principles and basic control statements. They demonstrate programing skill, use canned programs, and use the computer for problem solving in various disciplines. Second, a one-semester high school course is an introduction to BASIC programing on the Apple computer. Students become familiar with graphics and color capabilities of the computer. Finally, the program will be updated with processes and resources suggested by the IV-C program, "Computer Education: Adaptation of Wausau Inservice." Local teacher inservice will be developed. (SS)

Program **Computer Inservice Program**
Contact Person Berland A. Meyer; DuWayne Kleinschmidt
Address 407 Grant Street
Wausau, Wisconsin 54401
Telephone (715) 845-5279

Abstract

In the spring of 1979 the decision was made by the Wausau School District to make a concerted effort to use microcomputers in the educational system. It was further decided that in order to implement this effectively inservice training had to be designed which would enable teachers to feel comfortable and competent with microcomputers. The program has progressed through four phases. During Phase 1, three microcomputers were introduced and used successfully in three carefully selected fifth grade classes. Interest and enthusiasm grew within the school districts. During Phase 2, four teachers from within the district developed and ran a four week "hands on" workshop. This was repeated three times with a total of sixty participants. During this phase, 55 microcomputers were placed in the district and a college credit course was also offered. In Phase 3, a course with college credit was offered in the district; 23 people enrolled. As a result of this course, teachers are writing their own programs-and classroom use is high. During Phase 4, school district teachers have been offered college credit courses in cooperation with a state university. More advanced work is developing and teachers from all grade levels and subject disciplines are participating. The Wausau School District is now able to offer consultant assistance to other districts. (CWF)

Funding Source(s)

Local School District; Elementary Secondary Education Act Title IV

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Author(s) Bishop, Thomas D.
Title **Applications of the Microcomputer to Existing Mathematics Courses.**
Date/Pages Oct 81 ; 6p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED212480**
Abstract

The microcomputer and microcomputer systems are viewed as offering a wealth of new opportunities for school mathematics programs, and provide an alternative to time-sharing in both cost and convenience. Four possible sources of suitable software are noted, and the following types of programs are discussed as useful for classroom work: (1) drill and practice, (2) tutorials, (3) demonstrations, (4) computer managed instruction, (5) problem solving, and (6) simulations. It is concluded that microcomputers offer inexpensive delivery systems for teacher-prepared courseware, but are not intended to preempt the use of more classical mediums such as print. This technology is seen to offer both teachers and students new opportunities to expand interest and knowledge. (MP)

Author(s) Dugdale, Sharon
Title **Green Globs: A Microcomputer Application for Graphing of Equations.**
Orig. Inst. Illinois Univ., Urbana. Computer-Based Education Research Lab.
Date/Pages Aug 81 ; 22p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208876**
Abstract

This paper outlines the development of an activity that uses the computer's unique capabilities to provide students with a meaningful and highly motivating experience with the graphing of equations. The basic design of the game calls for the computer to display a coordinate grid on which it graphs any equations that are typed in by the student. Thirteen "Green Globs," each about .7 units in diameter, are scattered about the grid. The goal of the game is to explode all of the green globs by hitting them with graphs specified by typing in equations. If a shot misses the expected targets, diagnostic feedback is provided to debug the ideas used. The game is scored using an algorithm which encourages cleverly planned shots and provides a wide range of achievable scores. The decision to exclude the possibility of trigonometry functions in favor of other options is discussed. A provision of the game allows students to view any of the ten top scoring games and see what shots and strategies the top players have used. Highlights of classroom use of Green Globs are provided, including descriptions of techniques used by some of the more advanced students. One reference is cited. (CHC)

Author(s) Abelson, Hal; Goldenberg, Paul
Title **Teacher's Guide for Computational Models of Animal Behavior: A Computer-Based Curriculum Unit to Accompany the Elementary Science Study Guide "Behavior of Mealworms." Artificial Intelligence Memo No. 432.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages Apr 77 ; 35p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED207798**
Hard Copy Artificial Intelligence Lab., 545 Technology Square, Rm. 338, Cambridge, MA 02139 ($1.75).

Abstract

This experimental curriculum unit suggests how dramatic innovations in classroom content may be achieved through use of computers. The computational perspective is viewed as one which can enrich and transform traditional curricula, act as a focus for integrating insights from diverse disciplines, and enable learning to become more active and project oriented. This unit suggests how an interplay of computer and non-computer activities could occur with elementary school biology. This material is envisioned as a second exposure to the LOGO programing language. Hence, the issues of introducing students to the basics of writing procedures and controlling turtles are not discussed. The focus is on illustrating how accessible computer-oriented facilities can be integrated into the classroom environment. The unit is prepared as a companion to the Elementary School Science Study "Teacher's Guide to Behavior of Mealworms." (MP)

Author(s) Fors, George, Ed.
Title **Microcomputer Guide.**
Orig. Inst. North Dakota State Dept. of Public Instruction, Bismarck.
Date/Pages Sep 79 ; 51p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED205169**

Abstract

Designed for use by school districts introducing computer mathematics into the curriculum, this manual provides guidelines for selecting a microcomputer system, as well as objectives and an outline for an introductory course in computer programming. Also presented are topics for computer applications in science, mathematics, chemistry, and physics, and three computer programs: (1) STAR PROBE, used to demonstrate the effects of gravitation and changes in velocity components (TRS-80 Level II BASIC); (2) Coefficients of Friction; and (3) Elemental Ratios for Empirical Formulas. Resources listed include textbooks on computer programming, references, periodicals, and a glossary of computer terminology. Programming information for a CAI spelling program, a descriptive outline of computer-related careers, and an introduction to flow charting (with examples) are appended. (LLS)

Author(s) Copple, Christine
Title **Computers in the Secondary Mathematics Curriculum.**
Date/Pages Jun 81 ; 34p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED204144**

Abstract

The purpose of this document is to increase the educator's awareness of the present situation in computers in the school. Although the study was directed at computers in the secondary mathematics curriculum, of necessity much of the material dealt with broader aspects of the computer in all secondary curricula. The first section of this report consists of a glossary of commonly used computer-oriented terms. The bulk of the document is a series of annotations of some of the current literature on computers, the first portion focusing on facts, figures, poritions, and attitudes regarding computer use in the secondary curriculum. The second set of annotations deals with computer uses in the mathematics classroom, and is subdivided into the following areas of concentration: (1) the teaching of computer literacy; (2) the teaching of computer science; and (3) computer-assisted instruction. The final annotation section focuses on the special aspects of microcomputers. The document concludes with a summary, some general conclusions, and two specific recommendations regarding computer use at the secondary level. (MP)

Author(s) Cauchon, Paul
Title **Chemistry with a Computer.**
Orig. Inst. Programs for Learning, Inc., New Milford, Conn.
Date/Pages 80 ; 184p.

Source(s)
Hard Copy Programs for Learning, Inc., New Milford, CT 06776 (no price quoted).
Abstract

This book, intended to serve as a resource guide for teachers wishing to implement computer-based learning in their own classrooms, is a collection of 29 classroom tested instructional programs designed to supplement an introductory chemistry course, regardless of text or approach. The programs cover a wide range of topics, from metric units of measure to solubility product calculations. To facilitate the use of the program, a description, sample run with student inputs underlined, and program listing have been included for each program. Programs are categorized as tutorial, simulation, problem generation, or demonstration. Program listings are all given in a version of BASIC used commonly in academic institutions. An appendix offers suggestions for modifications if help is needed with the translation of commands from BASIC to another system. (CS)

Author(s) Stoutemyer, David R.
Title **Computer Symbolic Math & Education: A Radical Proposal.**
Date/Pages 79 ; 17p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED196720**
Abstract

This document promotes computer symbolic mathematics and computer algebra as ideal instructional materials for mathematics, science, and engineering students. Further, computer algebra is viewed as appropriate for all students throughout the mathematics curriculum, by serving a vast area of mutual reinforcement and cross-motivation between mathematics and computer science. Some of the problems with most popular programing languages in mathematics instruction are listed, along with many of the obstacles that must be met if a computer algebra language is to be developed and assigned widespread use. Several steps to possible remedies are proposed, and a summary of an educational computer symbolic mathematics system as implemented on the Intel 8080 is included in an appendix. (MP)

Author(s) Flowers, John D.
Title **Making Water Pollution a Problem in the Classroom Through Computer Assisted Instruction.**
Date/Pages Oct 80 ; 20p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED196702**
Abstract

Alternative means for dealing with water pollution control are presented for students and teachers. One computer oriented program is described in terms of teaching wastewater treatment and pollution concepts to middle and secondary school students. Suggestions are given to help teachers use a computer simulation program in their classrooms. Formulating hypotheses, identifying and manipulating variables, analyzing computer generated data tables, and graphic displays are described with regard to problem solving. (Author/CO)

Author(s) Moursund, David; East, Phillip
Title **Calculators and Computers in the Classroom: Select Summaries of Current Education Topics. Know-Pak No. 17.**
Orig. Inst. Oregon State Dept. of Education, Salem.
Date/Pages Oct 79 ; 27p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED191710**
Abstract

The usage and availability of calculators, computers, and related instructional materials are presented. This publication is a Know-Pak, a summary of materials and articles that is part of a series of information packets developed by the Oregon Department of Education. Topics covered include: (1) a forecast of a computer literacy crisis in American education; (2) model goals for computer education; (3) sample program course and instructional goals; (4) computer use in Oregon; (5) computer and calculator terminology; (6) calculator use in elementary schools; (7) available textbooks; (8) sample problems; and (9) lists of current computer assisted instruction projects. Annotated bibliographies on articles from the "Oregon Computing Teacher," selected summarized reports from the Oregon Council for Computer Education, and other sources of information such as publications, organizations, and people active in Oregon's computer education programs are also included. (MP)

Author(s) Swinton, Spencer S.; And Others
Title **The PLATO Elementary Demonstration Educational Outcome Evaluation. Final Report: Summary and Conclusions.**
Orig. Inst. Illinois Univ., Urbana. Computer-Based Education Lab.
Date/Pages Nov 78 ; 29p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED186020**
Abstract

This summary report describes the development, implementation, and measured educational outcomes of a demonstration project of beginning reading and mathematics instruction utilizing the PLATO system with groups of elementary school children in Illinois. Extensive descriptions of the experiences and reactions of teachers and students in the classroom as the demonstration developed form the major part of this report. Because of teacher self-selection into the PLATO treatments, this was not a randomized experiment, but rather a naturalistic study in which comparisons could be made; however a multiplicity of plausible explanations could be offered for differences in outcomes between PLATO and non-PLATO groups, and among classes taught by different teachers. Six case studies, based on observation, interviews, and teacher logs, document the problems of implementation, but also capture teachers' assessments of this developing technology. Demonstration year achievement and attitude outcomes for reading and mathematics are also included, as well as major findings. (RAO)

Author(s) Friedland, James
Title **Huntington II Simulation Program - TAG. Student Workbook, Teacher's Guide, and Resource Handbook.**
Orig. Inst. Digital Equipment Corp., Maynard, Mass.; State Univ. of New York, Stony Brook. Huntington Computer Project.
Date/Pages May 73 ; 55p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED179416**
Abstract

Presented are instructions for the use of "TAG," a model for estimating animal population in a given area. The computer program asks the student to estimate the number of bass in a simulated farm pond using the technique of tagging and recovery. The objective of the simulation is to teach principles for estimating animal populations when they cannot be counted directly or when counting would disturb or harm the animals. (Author/RE)

Author(s) Friedland, James
Title **Huntington II Simulation Program - PH. Student Workbook, Teacher's Guide, and Resource Handbook.**
Orig. Inst. Digital Equipment Corp., Maynard, Mass.; State Univ. of New York, Stony Brook. Huntington Computer Project.
Date/Pages Oct 73 ; 62p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED179413**
Abstract

Described is the computer simulation program "PH." The program consists of three different laboratory investigations dealing with the pH specificity of enzymes. The purpose of the program is to enable tenth- to twelfth-grade students to determine a possible explanation for pH specificity in an experimental, but mathematical, fashion. (Author/RE)

Author(s) Friedland, James; Frishman, Austin
Title **Huntington II Simulation Program - MALAR. Student Workbook, Teacher's Guide, and Resource Handbook.**
Orig. Inst. Digital Equipment Corp., Maynard, Mass.; State Univ. of New York, Stony Brook. Huntington Computer Project.

Date/Pages Mar 73 ; 95p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED179412**
Abstract

Described is the computer model "MALAR" which deals with malaria and its eradication. A computer program allows the tenth- to twelfth-grade student to attempt to control a malaria epidemic. This simulation provides a context within which to study the biological, economic, social, political, and ecological aspects of a classic world health problem. (Author/RE)

Author(s) Braun, Ludwig; Friedland, James
Title **Huntington II Simulation Program - BUFLO. Student Workbook, Teacher's Guide, and Resource Handbook.**
Orig. Inst. Digital Equipment Corp., Maynard, Mass.; State Univ. of New York, Stony Brook. Huntington Computer Project.
Date/Pages Mar 74 ; 65p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED179411**
Abstract

Described is the use of the computer model "BUFLO." BUFLO is a simulation which allows students to study the historical and biological reasons for the extinction of the buffalo. BUFLO simulates the natural life cycle of the buffalo and allows the student to manipulate harvesting policies to reach certain goals outlined in the student handbook. (Author/RE)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) O'Connor, Vincent F.
Title **When Computer Meets Kid in Middle School Math**
Jour. Citation Classroom Computer News; v2 n4 p60-61 Mar-Apr 1982
Abstract

A way to use programs that orient students to use of the computer and establish a schedule for pupil access is presented. The distinction between using the computer as a medium for instruction and using it as a topic of instruction is viewed as not entirely clear-cut. (MP)

Author(s) Trowbridge, David; Bork, Alfred
Title **Computer Based Learning Modules for Early Adolescence**
Jour. Citation AEDS Monitor; v20 n4-6 p19-21 Nov 1981
Abstract

Describes a project designed to assist 12- to 14-year-old students in developing abstract reasoning skills in math and science via interactive computer programs. Examples of learning modules designed to be run on microcomputers are included. Seven references are listed. (MER)

Author(s) Eisenkraft, Arthur
Title **Microcomputers in a Physics Curriculum.**
Jour. Citation Journal of Computers in Mathematics and Science Teaching; v1 n2 p9-11 Win 1981
Abstract

Describes a physics classroom in Briarcliff High School, Briarcliff Manor, New Jersey. Over 50 percent of the student body studies at least a year of physics before graduating, but less than 15 percent take a computer course. The physics programs discussed illustrate five different computer applications. (MP)

Author(s) Shilgalis, Thomas W.
Title **Geometric Transformations on a Microcomputer.**
Jour. Citation Mathematics Teacher; v75 n1 p16-19 Jan 1982
Abstract

A program designed in BASIC for the Apple II computer that uses high resolution graphics to display geometric transformations is described. The four distance-preserving transformations included are translations, rotations, reflections, and glide-reflections. Shape-preserving dilations are also covered. (MP)

Author(s) Hudson, M. J.; Bennett, A. J.
Title **Ranald I: An Introduction to Qualitative Inorganic Analysis.**
Jour. Citation School Science Review; v63 n222 p156-57 Sep 1981
Abstract

Describes several sources of computer programs for secondary school chemistry. Provides an example of a computer package (RANALD I) on quantitative inorganic analysis suitable for O/A-level pupils as a supplement to laboratory work. (DS)

Mathematics/Science
Journal Articles

Author(s) Rowbotham, Neil
Title **Using a Microcomputer in Science Teaching.**
Jour. Citation School Science Review; v63 n222 p70-77 Sep 1981
Abstract

Explores several options and advantages of using microcomputers in science teaching. Describes programs for calculating pH, Maxwell-Boltzman distribution of velocities in a gas, atomic orbitals, and lattice energies. Also suggests use of microcomputers in the areas of simulations, scoring tests, and controlling stock. (DS)

Author(s) Licklider, J. C. R.
Title **Impact of Information Technology on Education in Science and Technology.**
Jour. Citation Journal of Computers in Mathematics and Science Teaching; v1 n1 p21-26 Fall 1981
Abstract

The history and projected future of advances in computer-based information technology are detailed along with the potential benefits and dangers of whole-scale use of this technology. (MP)

Author(s) Barnato, Carolyn; Barrett, Kathy
Title **Micro-Computers in Biology Inquiry.**
Jour. Citation American Biology Teacher; v43 n7 p372,377-78 Oct 1981
Abstract

Describes the modification of computer programs (BISON and POLLUT) to accommodate species and areas indigenous to the Pacific Coast area. Suggests that these programs, suitable for PET microcomputers, may foster a long-term, ongoing, inquiry-directed approach in biology. (DS)

Author(s) Kennedy, Jane B.
Title **Graphing Polynomials with Computer Assistance.**
Jour. Citation Mathematics Teacher; v74 n7 p516-19 Oct 1981
Abstract

The use of a computer to help honors second-year algebra students graph quadratic and higher-order polynomials is discussed. Sample computer programs are included. (MP)

Author(s) Shinohara, Fumihiko
Title **Improvement of Science and Mathematics Education with the Use of Computer-Assisted Instruction (CAI) System.**
Jour. Citation Journal of Science and Mathematics Education in Southeast Asia; v4 n1 p42-49 Jan 1981
Abstract

Different methods of teaching using the computer in a Computer-Assisted Instruction (CAI) system are discussed and illustrated with sample courseware in mathematics, physics, and elementary science. (DS)

Author(s) Van Putten, C. H.
Title **Equilibrium Simulation Computer Programs for Use in Matriculation Chemistry Courses.**
Jour. Citation SASTA Journal; n812 p50-58 Aug 1981
Abstract

Reviews the prerequisite knowledge chemistry students need before a thorough understanding of chemical equilibrium can be achieved. Outlines two microcomputer programs developed to enhance and consolidate students' understanding of chemical equilibria. Includes a sample run and student worksheet. (DS)

Author(s) Carman, Richard T.
Title **KEMGAM: A Chemical Adventure.**
Jour. Citation Journal of Chemical Education; v58 n9 p695-96 Sep 1981
Abstract

Describes two computer programs in which students select chemical substances and amounts for use on an imaginary trip. Written in BASIC, the 400-statement program is suitable for use on microcomputers. (SK)

Author(s) Spaans, Z. T.
Title **Algebra: Practice with Positive and Negative Numbers.**
Jour. Citation Creative Computing; v7 n10 p210,212,214 Oct 1981
Abstract

A program designed in the BASIC programing language to provide drill and practice with positive and negative numbers is presented. (MP)

Author(s) Carlson, Ronald
Title **Inequality Tutorial.**
Jour. Citation Creative Computing; v7 n10 p186,188,190 Oct 1981
Abstract

A program designed to tutor algebra students in inequalities is presented. The program is designed around the graphics of the Apple II computer, and randomly picks graphs, and shades inequalities. (MP)

Author(s) Moore, John W., Ed.
Title **Computer Series, 19: Bits and Pieces, 6.**
Jour. Citation Journal of Chemical Education; v58 n7 p549-56 Jul 1981
Abstract

Presents 11 short descriptions on the applications of computers in chemistry classrooms and laboratories, including among others, using microcomputer graphics to teach quantum theory, a versatile and inexpensive instrument/computer interface, and a microcomputer-controlled scintillation spectrometer. (JN)

Author(s) Sparkes, Bob
Title **Microcomputers in Physics.**
Jour. Citation Physics Education; v16 n3 p145-51 May 1981
Abstract

Describes the use of microcomputers in data acquisition and simulation of physical phenomena. Discusses digital and analog inputs/outputs, simulations, and interactive programs in mechanics. Includes examples of computer programs. (SK)

Author(s) Anderson, Ronald E.; And Others
Title **The Affective and Cognitive Effects of Microcomputer Based Science Instruction.**
Jour. Citation Journal of Educational Technology Systems; v9 n4 p329-55 1980-81
Abstract

Investigates the impact of a brief computer assisted instruction (CAI) experience on the attitudes, beliefs, and knowledge of high school students. A 20-30 minute science lesson on water pollution was administered to 350 students by Apple II microcomputers. Twenty references are listed. (FM)

Author(s) Engel, Charles W.; Payne, H. E., Jr.
Title **Computer Simulation in Secondary School Mathematics.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p114-28 Spr 1981

Abstract
Computer-enhanced simulation of models permits students to become subjectively involved in interaction with the computer. A method for developing a computer simulation is described, and three examples of computer simulations are given. (JN)

Author(s) Yates, Daniel S.
Title **Computer-Enhanced Probability.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p96-113 Spr 1981
Abstract
The computer is in the process of becoming an important aid to the teaching of statistics and probability at the middle and secondary levels. Examples show ways in which the computer can facilitate learning of mathematical concepts through tutoring, simulation, and computation. (JN)

Author(s) Frandsen, Henry
Title **Trigonometry--Mathematical Curricular Areas and Instructional Computing.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p82-95 Spr 1981
Abstract
The computer has enormous potential for enhancing the secondary trigonometry curriculum. Areas that can be improved through use of the computer include: solutions of triangles, inductive investigations of functions, graphs of functions, and solution of trigonometric identities. (JN)

Author(s) Kantowski, Mary Grace
Title **The Microcomputer and Instruction in Geometry.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p71-81 Spr 1981
Abstract
The microcomputer has great potential for making high school geometry more stimulating and more easily understood by the students. The microcomputer can facilitate instruction in both the logico-deductive and spatial-visual aspects of geometry through graphics representations, simulation of motion, and its capability of interacting with the students. (JN)

Author(s) Krist, Betty J.
Title **Algebra and Instructional Computing.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p55-70 Spr 1981
Abstract
Examples are provided which demonstrate the use of the computer as an instructional aid for the algebra curriculum. While the basic content of an algebra course would remain intact, computer technology can enhance and expand methods of algebra instruction. (JN)

Author(s) Henry, Loren L.
Title **Computers and Middle School Mathematics.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p46-54 Spr 1981
Abstract
Potential instructional uses of the computer for expanding middle school mathematics programs are described. Content areas which are represented include geometry, number theory, computation, consumer education, and probability. (Author/JN)

Author(s) Overton, Victoria
Title **Research in Instructional Computing and Mathematics Education.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p23-36 Spr 1981
Abstract
The topics of computer-assisted instruction, computer-augmented problem solving, and computer-managed instruction are discussed. In the field of computer-assisted instruction, uses of the computer for drill and practice, tutorial purposes, and simulation are examined. (Author/JN)

Author(s) Camp, John S.; Marchionini, Gary
Title **Computer Enhanced Mathematics.**
Jour. Citation Viewpoints in Teaching and Learning; v57 n2 p1-12 Spr 1981
Abstract

Six major categories encompassing the various ways in which computers can be used to enhance mathematics education are listed and described. Examples of problem solving, drill and practice, management of instruction, and tutorial applications are followed by predictions about the future of instructional computing in mathematics education. (Author/JN)

Author(s) Tocci, Salvatore
Title **The Microcomputer/Biology "Interface."**
Jour. Citation Science Teacher; v48 n5 p60-62 May 1981
Abstract

Describes ways that computer-assisted instruction (CAI) is used in a high school biology course, including: (1) mastery of specific objectives; (2) CAI as a self-check; (3) computer games; (4) laboratory simulations; (5) genetics instruction; (6) writing programs; and (7) remedial assistance and testing. (CS)

Author(s) Sauer, G.
Title **Playing the Quantum Shuffling Game with Programmable Pocket Calculators and Microcomputers.**
Jour. Citation Physics Education; v16 n2 p108-11 Mar 1981
Abstract

Presents the uses of pocket calculators, programmable calculators, and microcomputers in teaching of statistical physics in unit 9 of the Nuffield advanced physics course. (SK)

Author(s) Piele, Donald T.
Title **How to Solve It--With the Computer: Part 7.**
Jour. Citation Creative Computing; v7 n5 p146,148,150,152-54 May 1981
Abstract

Several computer-oriented lessons designed to explore and exploit the problem-solving capabilities of currently available, inexpensive systems are presented. The programing language BASIC is featured. (MP)

Author(s) Ahmed, Afzal; Oldknow, Adrian
Title **Scampi and Chips: Computers on the Mathematics Menu.**
Jour. Citation Mathematics Teaching; n94 p37-42 Mar 1981
Abstract

The use of the Computer to Help In Problem Solving (CHIPS) is described, along with Small Computers Aiding Mathematical Problem-solving and Investigations (SCAMPI). Sample activities involving combinations and "shuffles" of elements are used to highlight the use of computers, with the BASIC programing language featured. (MP)

Author(s) Hutcheson, James W.
Title **Computer-Assisted Instruction is Not Always a Drill.**
Jour. Citation Creative Computing; v7 n3 p96-99 Mar 1981
Abstract

Some uses of a computer in a high school statistics class are presented. The increased student involvement in the lesson is seen as a result of the line demonstration of the mathematical concepts involved. A special application program written in BASIC is included. (MP)

Author(s) Kraus, William H.
Title **Using a Computer Game to Reinforce Skills in Addition Basic Facts in Second Grade.**
Jour. Citation Journal for Research in Mathematics Education; v12 n2 p152-55 Mar 1981

Abstract

A computer-generated game called Fish Chase was developed to present drill-and-practice exercises on addition facts. The subjects of the study were 19 second-grade pupils. The results indicate a computer game can be used effectively to increase proficiency with basic facts. (MP)

Author(s) Stankevitz, James; Gottlieb, Herbert H., Ed.
Title **Apparatus for Teaching Physics: A Microcomputer as a Timing Device.**
Jour. Citation Physics Teacher; v19 n3 p198-201 Mar 1981
Abstract

Describes an apparatus that uses a microcomputer as a timing device in which the Coefficient of Restitution (COR) is measured. Diagrams of a circuit for timing measurements and a flow chart of a program that measures COR are provided. A list of COR for some common objects is also included. (CS)

Author(s) Tinker, Robert F.
Title **Microcomputers in the Teaching Lab.**
Jour. Citation Physics Teacher; v19 n2 p94-105 Feb 1981
Abstract

Discusses the use of microcomputers as a universal instrument to replace more expensive instrumentation in many traditional labs. Describes the availability of microcomputers as inexpensive educational tools which can be used successfully in labs with minimal requirements on the computer. (SK)

Author(s) Milsop, Marilyn P.
Title **So You've Got a Microcomputer in Physics Class--Now What?**
Jour. Citation Physics Teacher; v19 n1 p51-52 Jan 1981
Abstract

Suggests approaches to teaching computer programing and applications to physics instruction. Indicates that the necessity of breaking a problem down into a programable entity ensures that the student will learn programing, logical sequential thinking, as well as physics content. (JN)

Author(s) Piele, Donald T.
Title **How to Solve It with the Computer. Part Three.**
Jour. Citation Creative Computing; v6 n11 p66-71 Nov 1980
Abstract

Problems are presented that can be solved with a microcomputer which explore the binary, decimal, and hexadecimal number systems and related problems. (Author/TG)

Author(s) Schneider, Mark S.
Title **Computer Assisted Skills Assessment in the Secondary Math Curriculum.**
Jour. Citation Technological Horizons in Education; v7 n3 p34-35 Mar 1980
Abstract

Using a microcomputer to test high school mathematics students for areas of weakness can save teachers' time, eliminate paperwork, and make testing enjoyable for the students. Results are immediately accessible and in several forms. (Author/TG)

Author(s) Levin, Dan
Title **In New Orleans Schools, Computers Track Students' Progress in Learning Hundreds of Skills.**
Jour. Citation Executive Educator; v2 n3 p24-25 Mar 1980
Abstract

Briefly describes the New Orleans schools' computer-managed instruction in mathematics and language arts in the junior and senior high schools. (IRT)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **Microcomputers in Science Consortium**
Contact Person Carol Diehl; Don Waldvogel
Address 901 W. Washington Street
New London, Wisconsin 54961
Telephone (414) 982-5040
Abstract

The Wisconsin school districts of New London, Merrill, Lakeland Union High School, Sheboygan, and West Allis-West Milwaukee formed a consortium to use microcomputers as tools of instruction in the high school science curriculum. The goal is to introduce microcomputer experiences to students in biology, chemistry, and physics classes. The districts are using as a model the Huntington II Computer Project developed at the State University of New York. Other programs will be used where appropriate. Selected staff members are trained in a summer workshop and during the school year. Strategies are developed for planning and implementing microcomputer programs for students. Teachers will prepare a bibliography of microcomputer software for science. (SS)

Funding Source(s)

The program was funded in 1981 by Title IV-C.

Cost of Implementation

The program cost $27,000 to implement.

Program **Computer Application in Project Physics**
Contact Person Jane Gordon
Administration Building
Address 2220 Northwestern Avenue
Racine, Wisconsin 53404
Telephone (414) 631-7079
Abstract

Project Physics uses microcomputers as instructional tools in Racine, Wisconsin. High school students become familiar with the capabilities and limitations of computers and become comfortable working with them. In addition, physics teachers have identified topics which could be better taught with computer applications. Microcomputers are used to enhance the teaching of selected topics. (SS)

Funding Source(s)

The program was funded by a Title IV-C grant.

Cost of Implementation

The project cost $24,768 to implement.

Program **Adaptation of Comprehensive Achievement Monitoring (CAM)**
Contact Person Larry Ballwahn
P.O. Box A
Elroy, Wisconsin 53929
Telephone (608) 462-8242
Abstract

A computer-based achievement testing program from Hopkins, Minnesota has been adapted to provide teachers, parents, students and administrators with the necessary achievement data for remedial teaching, reinforcement and decision making. The program replaces various objective-based instructional programs with a single management system. Each student in grades 7-12 should be able to master mathematics and language arts to his or her full potential. To this end, teachers select basal objectives and test items, test for foreknowledge, mastery, and retention, and use the resulting information for improved instruction and communication. (SS)

Cost of Implementation

The grant award for this program is $25,000.

Program Computer-Assisted-Diagnostic-Prescriptive Program in Reading and Mathematics (CADPP)

Contact Person Debra J. Glowinski
Box 292
Dillwyn, Virginia 23936

Telephone (804) 983-2714 or (804) 983-2863

Abstract

CADPP is a remedial program in reading and mathematics designed to supplement the regular school program. Both regular and Title I curricula develop and utilize teacher-made games, worksheets, and manipulative materials. The staff believe that diverse learning styles require a variety of supplemental materials to reinforce skills. CADPP has three major components; A diagnostic approach to individualized instruction; a learning center approach to classroom management; and an individual, computerized prescriptive approach to instruction in areas of need. Essential elements of the program include diagnosis with a criterion referenced test, use of a computer to develop an individualized educational plan, an instructional management system incorporating learning stations, and maintenance of a continuing computer update of instructional activities and pupil progress. Use of a computer to perform the clerical duties allows teachers more time for instruction. Intense staff development provides the computer with a data bank containing information on student characteristics and learning material characteristics. After diagnostic testing and teacher observation define skill needs, the computer matches the two sets of characteristics to prepare the prescription best suited to each individual student. The teacher receives technical assistance in effective implementation of the students's program.

Program Evaluation

This program has been validated by the JDRP, 6/79.

Funding Source(s)

Elementary Secondary Education Act Title I

Cost of Implementation

Based on 468 pupils, start-up cost is $45.51 per pupil. In addition, cost for implementing a criterion-referenced testing program and instructional management system is $13.64 per pupil. Continuation costs are $10.32 per pupil, based on 630 students.

ERIC Documents

The following documents may be obtained from the source(s) indicated. *See "How to Use Computers and the Classroom" for more information.*

Author(s) Vickery, Carol A.
Title **Personal Experiences: Using Microcomputers in a Junior High School High-Potential Program.**
Date/Pages 30 Apr 81 ; 29p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208860**
Abstract

This report describes the beginning of a school district's involvement in the use of microcomputers in the classroom, and one teacher's experiences with microcomputers in a junior high school setting. Background information is given on how the district financed its initial computer investment, approaches the district used to encourage teacher involvement with computers, and an analysis of microcomputer applications in an English class, in writing a school newspaper, and in a program for the academically gifted. Strategies for initiating teacher involvement and managing student enthusiasm over a 2-year period are presented, as well as suggestions for using microcomputers in writing programs. (MER)

Author(s) Lawler, R. W.
Title **One Child's Learning: Introducing Writing with a Computer. A. I. Memo No. 575.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages Mar 80 ; 20p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208415**
Abstract

This paper observes that computer access affects a child's learning significantly, and presents a case study of one child's use of the computer as an example of how computer-based introduction to writing might work. The case study highlights the suitability of computers for an introduction to writing that separates the structural elements of composition from content. Specific later developments of the subject's writing are offered to suggest that the child's earlier experiences in computerized writing remained important for learning writing forms, such as short stories and friendly letters. (RL)

Author(s) Rauch, Margaret; Samojeden, Elizabeth
Title **Computer-Assisted Instruction: One Aid for Teachers of Reading.**
Date/Pages Apr 81 ; 12p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED204702**
Abstract

Computer assisted instruction (CAI), an instructional system with direct interaction between the student and the computer, can be a valuable aid for presenting new concepts, for reinforcing of selective skills, and for individualizing instruction. The advantages CAI provides include self-paced learning, more efficient allocation of classroom time, and feedback that allows students and teachers to monitor progress. The disadvantages of CAI include difficulty locating specific, relevant programs and the time and limitations for writing alternative programs, and the inconvenience of computer "down" time. Teachers designing a CAI curriculum for a reading and study skills course, may choose modules of instruction for time management, study strategies, note taking, test taking, and independent study. If a designer must write a program, the services of various support personnel, such as a computer consultant, a programer, or a secretary to type in the program, may be enlisted.

The designer should review the completed program and evaluate whether the original objectives were met. Students and other teachers can also evaluate the program, which will allow for continual updating and maintenance of the program. (HTH)

Author(s) Cronnell, Bruce; Humes, Ann
Title **Using Microcomputers for Composition Instruction.**
Date/Pages Mar 81 ; 10p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED203872**
Abstract

One of the most valuable uses of microcomputers and word processors in composition instruction is in the teaching of writing revision. A number of activities can be carried out with these tools; for example, (1) after appropriate instruction on revision, students can be given prewritten text and asked to revise it on the word processors; (2) after a student has composed a text, the microcomputer can suggest that revisions be made; and (3) after a student has composed a text, the microcomputer can look for specific kinds of errors in the writing, mark the place where the errors occur, and require the student to correct them. Microcomputers and word processors may also be used to teach students sentence combining and how to generate and arrange content. (LLS)

Author(s) Piestrup, Ann McCormick
Title **Preschool Children Use Apple II To Test Reading Skills Programs.**
Orig. Inst. Advanced Learning Technology, Portola Valley, Calif.
Date/Pages 28 Jan 81 ; 13p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED202476**
Abstract

Fifty-five preschool children, ages three and four, used an Apple II microcomputer to learn reading readiness concepts of "above," "below," "left," and "right." Available during indoor play periods for three weeks at a nursery school on the Stanford University campus, the microcomputer was accepted enthusiastically by children, teachers, and parents as an activity center, and criterion tests on the four reading skill concepts showed that children improved after the 3-week period with the microcomputer. Color graphics, music, and voice response to keyboard inputs by the children were elements used in the program, and children evidenced considerable enjoyment using the computer. While the Apple was monitored at all times by a research assistant, the children soon learned how to operate it properly and how to take care of both the microcomputer and the diskettes used to run the program. (Author/BK)

Author(s) Brebner, Ann; And Others
Title **Teaching Elementary Reading by CMI and CAI.**
Date/Pages 80 ; 23p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED198793**
Abstract

A computer managed instructional system for reading, begun five years ago in Belvedere-Parkway Elementary School in Calgary, contains 329 behavioral objectives ranging from kindergarten to 8th grade levels, with testing performed online. After completion of a test, a student receives a printout listing the objectives completed, those that need revision, and those that remain to be learned. Class reports show student performance by objectives, and provide specific prescriptions for each student related to the reading texts used in the school. Results show that teachers, students, and parents have all benefited. Teachers are freed from administering, scoring, and recording tests, and can use the prescriptions to plan individualized instruction. Students are motivated by the positive statements about their progress which appear on their individualized summary sheets together with the objectives which still need work. Parents are pleased because they know, from the summary reports, where their children are in relation to what is expected. In addition, reading achievement scores for 6th grade students have increased from the 25th to the 55th percentile. Copies of the student summary sheet and the summary report are included. Additional details are provided in the attached paper by the same authors. (BK)

Author(s) Horodowich, Peggy Maki
Title **Developing Stylistic Awareness on the Computer: A Tagmemic Approach.**
Date/Pages Nov 79 ; 9p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED198530**
Abstract

The format of the Instruction Dialogue Author Facility (IDAF) computer program has been applied to teaching clause analysis in college writing classes. The IDAF program exercises a great deal of control over a writing student's progression through lessons. Each of the writing lessons consists of one or more exchanges between the instructor and the student. The IDAF program also stores statistics on individual lessons and permits instructors to revise lessons or to append materials for students with special needs. The format of the lessons is clause analysis, reflecting theory and practice related to tagmemic analysis. To encourage the composition process on the computer, students are asked to make use of subordinators to create complex and compound-complex sentences. Through this clause analysis approach to writing, students understand the options they have in creating their writing styles, options ranging from the centrality of the verb to the structure of information in cumulative or periodic sentence structures. Further, these students begin to see how to expand informational content by yoking closely related thoughts together by adding words or clauses that modify, explain, describe, or add details to propositions. (Appendixes provide examples from the lessons in the program.) (RL)

Author(s) Burns, Hugh
Title **A Writer's Tool: Computing as a Mode of Inventing.**
Date/Pages Oct 80 ; 11p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED193693**
Abstract

Computer assisted instruction can be used for stimulating rhetorical invention in English composition. The computer program is responsible for the direction of the inquiry and the motivational sequence while the writer is responsible for the content. The resulting interaction raises to the conscious level what writers already know about their subjects and makes them write down their ideas. The computer programs also have the ability to ask questions to which writers don't yet know the answers. Such dialogues, by generating some dissonance, prompt writers to articulate problems that the computer-cued interaction uncovers. The computer can also provide approximately 560 conference hours teaching invention as well as print students' copies of their interactions. Computer tasks need not be a pedagogical bed of drill and practice sequences alone, but can be a creative, open-ended, problem solving application of instructional computing. (HOD)

Title **Automated Dictionaries, Reading and Writing; Chairman's Report of a Conference on Educational Uses of Word Processors with Dictionaries (New York, New York, June 14-15, 1979).**
Orig. Inst. National Inst. of Education (DHEW), Washington, D.C.
Date/Pages Dec 79 ; 31p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED189624**
Abstract

This booklet summarizes a discussion of the opportunities provided by computerized information-handling technology to improve student achievement in reading and writing. The first section discusses the development and educational use of an automated dictionary (AD) that would allow a student to designate a word by typing it and receive information about it, either aurally by electronically generated speech or visually on a cathode ray tube screen. Also discussed are the possibilities of incorporating an AD in a word processor and the larger contexts in which these systems would function. The second section outlines the technical implementation of computer hardware and software in the classroom. The third section describes the kinds of scientific research in lexicography, linguistics, psychology, and education that will be required to realize the full potential of such systems. The original proposal made to the National Institute of Education suggesting the feasibility of ADs is appended. (AEA)

Author(s) Swinton, Spencer S.; And Others
Title **The PLATO Elementary Demonstration Educational Outcome Evaluation. Final Report: Summary and Conclusions.**
Orig. Inst. Illinois Univ., Urbana. Computer-Based Education Lab.
Date/Pages Nov 78 ; 29p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED186020**
Abstract

This summary report describes the development, implementation, and measured educational outcomes of a demonstration project of beginning reading and mathematics instruction utilizing the PLATO system with groups of elementary school children in Illinois. Extensive descriptions of the experiences and reactions of teachers and students in the classroom as the demonstration developed form the major part of this report. Because of teacher self-selection into the PLATO treatments, this was not a randomized experiment, but rather a naturalistic study in which comparisons could be made; however a multiplicity of plausible explanations could be offered for differences in outcomes between PLATO and non-PLATO groups, and among classes taught by different teachers. Six case studies, based on observation, interviews, and teacher logs, document the problems of implementation, but also capture teachers' assessments of this developing technology. Demonstration year achievement and attitude outcomes for reading and mathematics are also included, as well as major findings. (RAO)

Author(s) Mason, George E.; Blanchard, Jay S.
Title **Computer Applications in Reading.**
Orig. Inst. International Reading Association, Newark, Del.
Date/Pages 79 ; 115p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED173771**
Hard Copy International Reading Association, 800 Barksdale Road, Newark, Delaware 19711 (Order No. 936, $3.00 member, $4.50 non-member)
Abstract

Consituting the first full treatment of computers in reading, this volume focuses on recent developments in computer assisted instruction and its classroom implications. The eight chapters provide information on the following topics: the development of digital computers and of programs for using them for educational purposes, college centers developing computer based reading programs, public school applications of computers to reading instruction, computer assessment of readability and textbook analysis, sources of computer services, recommended uses of computers in the reading program, computers in reading research, and the future of the computer as an aid to reading instruction. Extensive annotated references are provided for each chapter. (FL)

Author(s) Wisher, Robert A.
Title **Improving Language Skills by Computer.**
Date/Pages Mar 78 ; 7p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED165710**
Abstract

This paper reviews and illustrates what the computer offers the field of language arts. Two different approaches to computer assisted reading instruction available at the Naval Training Center in San Diego--the subskills and the holistic approaches--are described. The implications of computer assisted instruction for writing instruction are outlined and several specific approaches are suggested, including one presently in development. It is argued that the computer offers the language arts field a versatile device for evaluating and improving language skills; and that there is even greater potential for future development. (VT)

Author(s) Fletcher, J. D.
Title **Computer Assisted Instruction in Beginning Reading: The Stanford Projects.**
Orig. Inst. Pittsburgh Univ., Pa. Learning Research and Development Center.
Date/Pages May 76 ; 65p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED155634**

Abstract

Two beginning reading curricula that use computer assisted instruction were developed during 12 years of work at Stanford University. This paper describes those curricula and the motivations, assumptions, procedures, and problems that were involved in their construction. Twelve observations about curricular design and development are summarized to help others interested in the developing field of cost-effective, individualized instruction. (Discussion following presentation of the paper is included.) (RL)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Schuyler, Michael R.
Title **A Readability Formula Program for Use on Microcomputers**
Jour. Citation Journal of Reading; v25 n6 p560-91 Mar 1982
Abstract

Presents a computerized readability scoring system that allows for the calculation and comparison of several formulas with no corresponding increase in teacher effort.

Author(s) Prentice, Lloyd R.
Title **A Program for Word People**
Jour. Citation Classroom Computer News; v2 n1 p18-20 Sep-Oct 1981
Abstract

A program in BASIC for the Atari 800 or 400 computer that generates Haiku poetry is presented and explained. The program is noted to be easily modifiable to create other forms. The view expressed is that program could become the basis for a student laboratory in expressive communication.

Author(s) O'Donnell, Holly
Title **Computer Literacy, Part II: Classroom Applications.**
Jour. Citation Reading Teacher; v35 n5 p614-17 Feb 1982
Abstract

Distinguishes between computer assisted instruction and computer managed instruction and relates some of their applications to the reading classroom. (FL)

Author(s) Marcus, Stephen
Title **Compupoem: A Computer-Assisted Writing Activity.**
Jour. Citation English Journal; v71 n2 p96-99 Feb 1982
Abstract

Describes a simple computer game for writing poetry. Notes the advantages and limitations of such computer assisted English instruction. (RL)

Author(s) Brandt, Ron, Ed.
Title **On Reading, Writing, and Computers: A Conversation with John Martin Henry.**
Jour. Citation Educational Leadership; v39 n1 p60-64 Oct 1981
Abstract

With a simplified alphabet and interactive computer programming, John Henry Martin has developed a system by which children can learn to read and write far better than usual. In this interview, he explains his approach. (Author/MLF)

Author(s) Mason, George E.
Title **The Computer as a Teacher of the Disabled Reader.**
Jour. Citation Journal of Research and Development in Education; v14 n4 p97-101 Sum 1981

Abstract

Computerized remedial reading instruction has become an increasingly popular technique in schools. The future holds enormous potential for additional roles to be played by the computer with regard to educational techniques for the reading-disabled--in diagnosis and prescription of reading difficulties--and in computer assisted remedial reading programs. (JN)

Author(s) Wilson, Kara Gae
Title **English Teachers: Keys to Computer Literacy.**
Jour. Citation English Journal; v70 n5 p50-53 Sep 1981
Abstract

Discusses ways that high school English teachers can help their students develop the skills for dealing with computers and other technology of the "information age." (RL)

Author(s) Cunningham, Pat
Title **Finding "Just the Right Book."**
Jour. Citation Reading Teacher; v34 n6 p720-22 Mar 1981
Abstract

Describes "Bookmatch," a computer program that attempts to match children with just the right book. (FL)

Author(s) Mason, George E.
Title **Computerized Reading Instruction: A Review.**
Jour. Citation Educational Technology; v20 n10 p18-22 Oct 1980
Abstract

Discusses some of the more familiar computer assisted instruction systems, their knowledge base, market sources, and adaptation in college, elementary, and secondary education reading programs. (MER)

Author(s) Allee, John G., Jr.; Williams, Robert L.
Title **A Challenge for the Language Arts CAI Developer.**
Jour. Citation Creative Computing; v6 n9 p120-25 Sep 1980
Abstract

Challenges facing the developers of computer assisted instruction (CAI) for language instruction are presented along with sample programed lessons. (MP)

Author(s) Thompson, Barbara J.
Title **Computers in Reading: A Review of Applications and Implications.**
Jour. Citation Educational Technology; v20 n8 p38-41 Aug 1980
Abstract

Briefly summarizes the applications and implications of computer-assisted instruction, computer-managed instruction, and computer-based resource units. Other computer applications and research are discussed. (JD)

Author(s) Blanchard, Jay S.
Title **Computer-Assisted Instruction in Today's Reading Classrooms.**
Jour. Citation Journal of Reading; v23 n5 p430-34 Feb 1980
Abstract

Reviews the development of computer assisted reading programs and predicts that as costs decline and the quality of the educational program improves, more computers may be found in the classroom. (MKM)

Author(s) Levin, Dan
Title **In New Orleans Schools, Computers Track Students' Progress in Learning Hundreds of Skills.**
Jour. Citation Executive Educator; v2 n3 p24-25 Mar 1980
Abstract

Briefly describes the New Orleans schools' computer-managed instruction in mathematics and language arts in the junior and senior high schools. (IRT)

Author(s) Rogers, John F.
Title **The First "R": Reading Practice with the TRS-80 Voice Synthesizer.**
Jour. Citation Creative Computing; v6 n4 p62 Apr 1980
Abstract

The development of a voice synthesizer gives a microcomputer the ability to speak and thus to give a student drill in reading. A computer program is included. (MK)

Author(s) Rugg, Tom; Feldman, Phil
Title **Speed Reading Made Easy...via Your PET.**
Jour. Citation Creative Computing; v5 n1 p132-33 Jan 1979
Abstract

This computer program provides practice in speed reading by displaying a word or phrase on the screen for a fraction of a second, then asking what it was.

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **Adaptation of Comprehensive Achievement Monitoring (CAM)**

Contact Person Larry Ballwahn
P.O. Box A
Elroy, Wisconsin 53929

Telephone (608) 462-8242

Abstract

A computer-based achievement testing program from Hopkins, Minnesota has been adapted to provide teachers, parents, students and administrators with the necessary achievement data for remedial teaching, reinforcement and decision making. The program replaces various objective-based instructional programs with a single management system. Each student in grades 7-12 should be able to master mathematics and language arts to his or her full potential. To this end, teachers select basal objectives and test items, test for foreknowledge, mastery, and retention, and use the resulting information for improved instruction and communication. (SS)

Cost of Implementation

The grant award for this program is $25,000.

Program **Computer-Assisted-Diagnostic-Prescriptive Program in Reading and Mathematics (CADPP)**

Contact Person Debra J. Glowinski
Box 292
Dillwyn, Virginia 23936

Telephone (804) 983-2714 or (804) 983-2863

Abstract

CADPP is a remedial program in reading and mathematics designed to supplement the regular school program. Both regular and Title I curricula develop and utilize teacher-made games, worksheets and manipulative materials. The staff believe that diverse learning styles require a variety of supplemental materials to reinforce skills. CADPP has three major components; A diagnostic approach to individualized instruction; a learning center approach to classroom management; and an individual, computerized prescriptive approach to instruction in areas of need. Essential elements of the program include diagnosis with a criterion referenced test, use of a computer to develop an individualized educational plan, an instructional management system incorporating learning stations, and maintenance of a continuing computer update of instructional activities and pupil progress. Use of a computer to perform the clerical duties allows teachers more time for instruction. Intense staff development provides the computer with a data bank containing information on student characteristics and learning material characteristics. After diagnostic testing and teacher observation define skill needs, the computer matches the two sets of characteristics to prepare the prescription best suited to each individual student. The teacher receives technical assistance in effective implementation of the students's program.

Program Evaluation

This program has been validated by the JDRP, 6/79.

Funding Source(s)

Elementary Secondary Education Act Title I

Cost of Implementation

Based on 468 pupils, start-up cost is $45.51 per pupil. In addition, cost for implementing a criterion-referenced testing program and instructional management system is $13.64 per pupil. Continuation costs are $10.32 per pupil, based on 630 students.

Program **Basic Skills in Reading (BASK)**
Contact Person Marjorie H. Benz
Amoskeag School
Address 121 Front Street
Manchester, New Hampshire 03102
Telephone (603) 669-3295

Abstract

BASK is an adoptable/adaptable program that can be used in several ways to upgrade reading skills. Target pupils are remedial. It is a pull-out project, using a criterion-referenced format and including individualized diagnosis, prescription, and instruction. The BASK curriculum is targeted to basic reading skills--readiness, phonics, structural analysis, comprehension,and study reference skills. Each child in the program receives 150 minutes of instruction weekly (30 minutes daily), working in small groups or on a one to one basis. The heart of the project is the individualized small-group instruction given daily in the child's familiar classroom setting. Frequent diagnosis and flexible prescriptive teaching ensure pupils' experience of success. Pupils evidencing possible learning disabilities are referred for testing and programming, if needed. Computerized information retrieval is used for diagnosis, prescription, and recordkeeping. The computer also processes progress reports for parents and school staff. The project is designed also for manual recordkeeping and data processing.(GAW)

Program Evaluation

This program has been validated by the JDRP, 9/11/75.

Funding Source(s)

Elementary Secondary Education Act Title I

Cost of Implementation

Approximately 65% of materials used can be made from materials available at the BASK Resource Center. Commercially available materials make up the remainder. Projected cost per pupil in 1978, $401.20.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Author(s)	Diem, Richard A.
Title	**Computers in the Social Studies Classroom. How to Do It Series, Series 2, No. 14.**
Orig. Inst.	National Council for the Social Studies, Washington, D.C.
Date/Pages	81 ; 8p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED209165**
Hard Copy	National Council for the Social Studies, 3615 Wisconsin Avenue, N.W., Washington, DC 20016 ($1.50, quantity discounts available).

Abstract

Designed to introduce social studies teachers to computers and to suggest ideas for their potential applications in social studies classrooms, this booklet is arranged in various sections. One section describes the origins of the modern computer, another defines computer terminology, and two sections explain computer hardware and computer software. Another section discusses three major ways in which computers are being used in schools. The first is computer assisted educational management systems which are designed to provide the evaluation of entering students, prescription formulating, individualization of instruction, record keeping, curriculum development, and evaluation. Second, computer assisted instruction (CAI) is being widely used. Drill and practice, tutorial help, simulations, inquiry modes (these allow students to ask questions within the context of the lesson), problem solving, and computerized games are common varieties of CAI. And third, computers are being used in what is called computer assisted learning. Students use the computer as an aid in solving problems, reviewing, and evaluating their progress. The booklet discusses training teachers to use a computer. Instructional software for teachers is cited. A sample lesson, "Election Projections," for using computers in the social studies classroom is provided. The booklet ends with a discussion of what the future holds. The results of a national survey to assess the use of computers in public elementary and secondary schools are also provided. A bibliography is included. (Author/RM)

Author(s)	Peters, G. David
Title	**Courseware Development for Micro-Processor Based Instruction in Music.**
Date/Pages	79 ; 8p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED190116**

Abstract

This report on an investigation of available hardware which would support music peripherals in an instructional mode focuses on the application of microcomputers to the teaching of music. It discusses microprocessor-based PLATO instruction, hardware selection, and courseware transfer, and notes that experimental lesson results indicate that microcomputers have the demonstrated capacity to support high-quality computer-based education in music. References are provided. (FM)

Author(s)	Zibit, Melanie; Hicks, Bruce
Title	**A Multi-Purpose Educational Medium--MC Painting.**
Orig. Inst.	Illinois Univ., Urbana. Coll. of Education.
Date/Pages	Oct 78 ; 22p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED172779**
Abstract

This discussion of a new computer-based medium describes microcomputer (MC) painting and its principal tool, the MC paintbrush, and explores their potential roles in mathematics, computer science, and art education in secondary schools. This paper describes the school computer, discusses capabilities of MC painting, explains how MC painting is done and what the computer does, argues for classroom use of the school computer, and discusses the meaning of literacy in mathematics, computers, and art. (Author/JD)

Title **The Global Energy Situation on Earth, Student Guide. Computer Technology Program Environmental Education Units.**
Orig. Inst. Northwest Regional Educational Lab., Portland, Oreg.
Date/Pages Oct 77 ; 28p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED167368**
Hard Copy Office of Marketing, Northwest Regional Educational Lab., 710 S.W. Second Ave., Portland, Oregon 97204 ($3.25)
Abstract

This is the student guide in a set of five computer-oriented environmental/energy education units. Contents of this guide are: (1) Introduction to the unit; (2) The "EARTH" program; (3) Exercises; and (4) Sources of information on the energy crisis. This guide supplements a simulation which allows students to analyze different aspects of energy conditions existing around the world. (MR)

Title **Our U.S. Energy Future, Student Guide. Computer Technology Program Environmental Education Units.**
Orig. Inst. Northwest Regional Educational Lab., Portland, Oreg.
Date/Pages Oct 77 ; 30p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED167366**
Hard Copy Office of Marketing, Northwest Regional Educational Lab., 710 S.W. Second Ave., Portland, Oregon 97204 ($3.25)
Abstract

This is the student guide in a set of five computer-oriented environmental/energy education units. Contents are organized into the following parts or lessons: (1) Introduction to the U.S. Energy Future; (2) Description of the "FUTURE" programs; (3) Effects of "FUTURE" decisions; and (4) Exercises on the U.S. energy future. This guide supplements a computer simulation that students can use to study the effects of their energy decisions. (MR)

Author(s) Hantula, James
Title **Using the Computer in the Social Studies Classroom.**
Date/Pages Nov 78 ; 13p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED164424**
Abstract

Social studies instruction will improve if social studies educators cooperate with computer professionals to develop ways of using the computer in the classroom. Objections of many social studies teachers to computers are based on experiences in which computers were used to intimidate consumers, implement poorly conceived projects, and promote rigid instructional approaches. If social studies teachers and computer professionals work together to provide a balanced program in processing information, they can extend skills of data collection, storage, retrieval, and analysis. Examples of computer projects of special interest to social studies teachers include the PLATO system, which is especially useful for studying population geography, and computer based resource units. Specific advantages of using computer instruction in the classroom include individualization of instruction, broadening of teachers' bases of information by allowing them to search various computer bases such as Educational Resources Information Center (ERIC), diagnosis of student needs, assignment of instructional sequences, evaluation of programs, locating information, data processing, and enhancing educational games and simulations. (DB)

Author(s)	Hicks, Bruce; Zibit, Melanie
Title	**MC Painting--A New Medium for Art Education.**
Orig. Inst.	Illinois Univ., Urbana. Dept. of Secondary Education.
Date/Pages	Mar 78 ; 11p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED160068**

Abstract

The MC (microcomputer) paint brush and other parts of the MC painting medium can be used easily by the student, teacher, or artist, young or old, to produce color pictures on a TV screen and store them for later viewing or modification. The 15 colors available--two intensities of each of six colors, black, and two whites--can be painted with any one of four "brushes"--one narrow and three wide--making continuous strokes or one dab at a time. The essential element of decision-making that is inherent in the artistic creative process is present in each step of MC painting; this element is easily controlled by the artist-user, who can be as spontaneous or as calculating, as fast or as slow, in his artistic activity as he wishes. (CMV)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Olds, Henry F., Jr.
Title **Geography Search.**
Jour. Citation Classroom Computer News; v2 n3 p34-36 Jan-Feb 1982
Abstract

A computer software package designed to lead students through exploration using ancient sailing ships is reviewed, focusing on features, educational value, design quality, written materials, and ease of use. The price was seen to be too high for most individual teachers or parents. (MP)

Author(s) Steele, Douglas J.; Wills, Barry L.
Title **Microcomputer-Assisted Instruction for Musical Performance Skills.**
Jour. Citation Technological Horizons in Education; v9 n1 p58-60,64 Jan 1982
Abstract

Current investigations in the Computers and Music group in the Department of Systems Design Engineering at the University of Waterloo are detailed. New instructional methods and applications are described and proposed that take advantage of microcomputers to improve and enhance the teaching and learning of music. (MP)

Author(s) Kehrberg, Kent T.; Pollack, Richard A.
Title **Videodiscs in the Classroom: An Interactive Economics Course.**
Jour. Citation Creative Computing; v8 n1 p98-102 Jan 1982
Abstract

The development of an economics course that uses Apple computers and videodisc players is described. The course was chosen because it is one that is frequently eliminated when school budgets are tightened and enrollments drop, and it was felt that the new technology could offer a solution. (MP)

Author(s) Killam, Rosemary N.; And Others
Title **Computer-Assisted Instruction in Music.**
Jour. Citation Pipeline; v6 n2 p3-4 Fall 1981
Abstract

The use of computer assisted instruction (CAI) in music education at North Texas State University is described. A special authoring language for CAI music lessons has been developed. (MP)

Author(s) Bolton, Harold; Mosow, David K.
Title **Microcomputers in the Classroom: A Foot in the Door.**
Jour. Citation Educational Computer Magazine; v1 n3 p34-36 Sep-Oct 1981
Abstract

To study attitudes toward computer assisted instruction in social studies, secondary students and teachers in Mobile, Alabama, were asked to use the microcomputer-based simulation "Civil War." Pre- and post-assessment scores of subjects' knowledge/attitudes concerning microcomputers are discussed. Journal availability: P.O. Box 535, Cupertino, CA 95015. (SJL)

Author(s) Auyer, Stephen E.
Title **Simulation of Competitive Business.**
Jour. Citation Creative Computing; v7 n3 p146-57 Mar 1981
Abstract

A computer program written in BASIC designed to simulate the activities of businesses in a marketplace where several car companies compete is provided. The educational uses of this program in an eighth-grade consumer economics class are highlighted. (MP)

Author(s) Saltinski, Ronald
Title **Microcomputers in Social Studies: An Innovative Technology for Instruction.**
Jour. Citation Educational Technology; v21 n1 p29-32 Jan 1981
Abstract

Examines the application of microcomputer statistics in social studies, and computer access and simulations in middle school environments. An interdisciplinary framework of curricula among social studies, science, and mathematics teachers with equal access to microcomputers and software programs is encouraged. (MER)

Author(s) Placek, Robert W.
Title **A Model for Integrating Computer-Assisted Instruction Materials into the Music Curriculum.**
Jour. Citation Journal of Computer-Based Instruction; v6 n3 p99-105 Feb 1980
Abstract

Discusses the importance of the design structure of total programs in computer assisted music instruction and presents a model for integrating computer assisted instruction materials into the music curriculum. Listed are objectives and their relevant behaviors for use in a CAI course of study in music education. (Author)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program **A Program for Computer Assisted Individualized Music Instruction**

Contact Person Lee Wille

Address 807 East Avenue So.
La Crosse, Wisconsin 54601

Telephone (608) 785-0275

Abstract

For a comprehensive music education, elementary and high school students need individualized instruction in pitch and rhythm reading, harmonic awareness, musical terms, signs and symbols and composition. The La Crosse project adapts a computer assisted instruction program piloted by the State University of Illinois in Normal, Illinois, to meet these needs. Students receive individualized instruction at a computer learning center in their school. Assignments are based on pre-tests, and the learning is self-paced. The goal is to increase student competencies in music fundamentals while maintaining a high level of artistry and performance activity. The program served middle and high school students in 1981-82 and has been expanded to serve grades K-12. A pre-test/post-test evaluation indicated that rhythm and vocabulary scores improved by 30%.

Funding Source(s)

This program was originally funded by a Title IV-C grant.

Cost of Implementation

Implementation cost varies from $500 to $25,000 depending on what equipment is already available in the school.

Program **Individualizing Social Studies Utilizing Computer Managed Instruction**

Contact Person Julia M. Frohreich

Address 6009 Johnson St.
McFarland, Wisconsin 53558

Telephone (608) 838-3146

Abstract

A school district individualized instruction program in social studies grades K-6 with a computer managed instructional system. A model that was operational for other basic subjects was developed for social studies. The model includes staff inservice, feedback sessions from staff, and modifications of computer programs. Evaluation instruments are included for each major skill and concept area. Staff members have access to career information with implications for individualizing the 7-12 social studies curriculum. (SS)

Funding Source(s)

The program was funded by a Title IV-C grant.

Cost of Implementation

The grant award was $55,501.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Title **Wisconsin Business Data Processing Curriculum Guide**
Orig. Inst. Wisconsin Department of Public Instruction, Madison, WI.
Date/Pages 80; 59 p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **by title.**
Abstract

This handbook was developed to help business educators incorporate data processing into their curricula. The guide includes data processing terminology definitions, data processing job titles, definitions and average salaries, and a rationale for including data processing in the curriculum. Goals and objectives are listed. Specific ways of integrating data processing into exsisting business education courses are explained. A brief discussion of equipment and costs is included. Other resources such as book publishers, journals, and organizations are listed. Suggestions for funding sources and proposal writing provide direction for new programs.

Author(s) Moore, Rod; And Others
Title **Exploration of Career Information Delivery Systems Via Computerization.**
Orig. Inst. Southwest Virginia Community Coll., Richlands, Va.
Date/Pages 81 ; 40p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED203910**
Abstract

Based on research conducted by Southwest Virginia Community College, this monograph presents information in a variety of formats on seven computerized career information systems: (1) microcomputers, which have the advantage of low cost, amenability to the production of locally generated databases, and portability; (2) the Coordinated Occupational Information Network (COIN); (3) the Computerized Vocational Information System (CVIS); (4) the DISCOVER II program for microcomputers; (5) the Computerized Educational and Career Information Link (CECIL); (6) the Guidance Information System (GIS); and (7) the System for Interactive Guidance and Information (SIGI). In addition to individual descriptions of each system, a chart is provided, which compares these systems with respect to what kinds of information are included; cost of the software and hardware; how the system groups occupations (e.g., by values, interest, Dictionary of Occupational Title numbers, or Holland Codes); the number of occupations listed in the system; and how often the system is updated. Two additional articles are also included: Vince Landau's description of how Kansas Wesleyan College uses a microcomputer in listing teacher vacancies, career planning, computer-assisted instruction, and providing career information; and Sue Captain's discussion of the advantages of housing a Career Information Center in the college library. (AYC)

Author(s) Korotkin, Arthur L.; And Others
Title **A Study of the Use of Computers in the Development of Science Career Awareness in Elementary School Children.**
Orig. Inst. Gibboney (Richard A.) Associates, Inc., Kensington, Md.; Montgomery County Public Schools, Rockville, Md.
Date/Pages Jul 78 ; 183p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED162894**

Abstract

The Science Career Awareness Training (SCAT) program proved effective as a means of increasing knowledge about science careers and interest in science as a career for students in the late elementary school grades (grades 4-6). Thus, the SCAT program influenced the knowledge and motivation bases of career choices. However, participants in the program became more indecisive as far as career choices were concerned. Among these students, certain stereotypic career-choice behaviors were already apparent suggesting that programs such as SCAT should start even earlier. The SCAT program uses a highly-interactive, computer-based system to provide information about science career areas. The information is presented in the form of 30-minute dialogs. The dialogs present both printed information and photographs, as well as problem-solving experiences. The topics of the dialogs are: (1) science careers in general; (2) the engineer; (3) the chemist; (4) the physicist; (5) the earth scientist; (6) the biologist; (7) the mathematician; (8) the social scientist; and (9) the health scientist. (Author/BB)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Russell, Michael
Title **Marketing and Microcomputers - A Perfect Combination**
Jour. Citation Balance Sheet; v63 n6 p292-94 Apr 1982
Abstract

Provides several reasons to include the microcomputer in the marketing and distributive education curriculum. Also suggests a method for adapting an existing curriculum to include the microcomputer. (CT)

Author(s) Leising, James G.; And Others
Title **(Theme: Computers in Agricultural Education.).**
Jour. Citation Agricultural Education Magazine; v54 n7 p4-14 Jan 1982
Abstract

This theme issue on computer applications in agriculture covers uses of computers in farm management and vocational agriculture instruction; strategies for evaluating and purchasing hardware and software; and ideas for improving the computer literacy of teachers and students. (SK)

Author(s) Wallace, Ivan G.
Title **Computers in the Typing Class?**
Jour. Citation Business Education Forum; v36 n2 p27-28 Nov 1981
Abstract

The author argues that the computer will eventually replace typewriters in the typing classroom. There are four reasons for this: (1) it will be economically justified; (2) it can provide multiple use and total versatility; (3) it is reality-oriented; and (4) it will be an effective teaching-learning situation. (CT)

Author(s) Lewis, R.
Title **Education, Computers and Micro-Electronics.**
Jour. Citation Technological Horizons in Education; v8 n1 p47-49,59 Jan 1981
Abstract

Traces general educational changes over the last 20 years, summarizes past and present uses of computers in education, and identifies the impact microelectronics will have on present and future education. Discusses vocational training, availability of inexpensive educational resources, teaching methods, and teacher education. (DC)

Author(s) Allen, Kenneth R.; And Others
Title **Competency Based Vocational Education.**
Jour. Citation VocEd; v56 n5 p39-44,52 Jun 1981
Abstract

Techniques of competency identification, module preparation, and learning management are discussed in "An Effective Measurement of Performance" by Kenneth Allen; "The Making of a Module" by Jan Danford; and "Managing a CBVE Classroom" by Sonja Irlbeck. (SK)

Author(s) Alexander, Wilma Jean
Title **Microcomputers: Impact on Society and Education.**
Jour. Citation Business Education Forum; v35 n8 p19-21 May 1981

Abstract

Discusses the role and importance of computers in today's society. Business teachers must prepare their students to function in an environment which includes all kinds of computers. (JOW)

Author(s) Zahn, Donald K.
Title **The Impact of the Computer in the Business Classroom.**
Jour. Citation Business Education Forum; v35 n6 p25-26 Mar 1981
Abstract

Business education teachers must be prepared to apply the new computer technology effectively in their classrooms. A relevant secondary education curriculum must be achieved, aiming at two computer education goals: computer literacy and career preparation in information/data/word/computer processing. (CT)

Author(s) Mundrake, George A.
Title **Data Processing: A Challenge for the 80's.**
Jour. Citation Balance Sheet; v62 n5 p196-200 Feb 1981
Abstract

Outlines career paths and education requirements for computer science occupations. Discusses ways in which business educators can incorporate computers and data processing into the curriculum, and can keep themselves abreast of current developments. (SK)

Author(s) Muscat, Eugene
Title **Microcomputers in Business Education.**
Jour. Citation Business Education World; v60 n4 p10-11 Mar-Apr 1980
Abstract

This article acquaints business educators with the equipment, terminology, and the wide range of applications microcomputers have in business education programs. Areas examined include hardware, software, computer-assisted instruction (drill and practice, simulation, and tutorial), computer-managed instruction, and word processing. (CT)

Program Descriptions

The following program descriptions include the name, address, and telephone number of a contact person. For more information contact this person directly.

Program	**Computer Data Processing Career Specialty Program**
Contact Person	Mr. Robert Nelson Washington High
Address	2525 N. Sherman Blvd. Milwaukee, Wisconsin 53210
Telephone	(414) 449-9400

Abstract

The Computer Data Processing specialty program at Washington High School was developed with the cooperation of Milwaukee area businesses and industries. The program provides students with an opportunity to explore careers in computer data processing using a wide variety of equipment and community resources. Special features of this program include its own computer system, a curriculum developed with the guidance of Milwaukee area business and educational leaders, specially trained staff, extended school-day hours, a summer program, and a laboratory featuring the latest equipment (including an IBM System 34, a Digital Equipment Corporation PDP 11/45, 17 terminals and 6 microcomputers). (SS)

Program Evaluation

Title VI Magnet Program yearly student and parent follow-up available from Milwaukee Public Schools Research Department.

Funding Source(s)

Funding for this program came from Title VI,; Title I, VEA, and local sources.

Program	**Vocational Education Project**
Contact Person	Mark Nelson
Address	1300 Industrial Drive Fennimore, Wisconsin 53809
Telephone	(608) 822-3276

Abstract

The Vocational Education Project of CESA 14 involves eight school districts. Senior high school students learn computer accounting and word processing, becoming ready to take jobs in these fields. Business education teachers get two days of inservice training on the computer courses. Students take field trips to a Vocational-Technical Institute and to local businesses and industries with computer operations. Guidance counselors learn the Wisconsin Career Information Service microcomputer program and the Southwest Wisconsin Vocational Technical and Adult Education career assessment services. Some districts offer cooperative programs of on-the-job training in computer occupations. (SS)

Funding Source(s)

This program was funded by the Governor's Employment; and Training Office.

Cost of Implementation

Cost factors include computer lease, inservice, consultants, travel, and coordination time.

ERIC Documents

The following documents may be obtained from the source(s) indicated. ***See "How to Use Computers and the Classroom" for more information.***

Title	**Personal Computers for the Physically Disabled: A Resource Guide.**
Orig. Inst.	Apple Computer, Inc., Cupertino, CA.
Date/Pages	81; 16 p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED213182**

Abstract

The resource guide discusses applications of personal computers for physically disabled persons. The introductory section reviews how a severely disabled boy has learded to communicate and to play games with his able bodied friends through a personal computer. Part I details systems (such as the microcommunicator and the Handiterm) for communication. Part II reviews computer applications in two educational settings, and part III briefly describes computer games which also enhance motor and social skills. Applications for the visually and hearing impaired are considered. Within each section are names and addresses of personal contacts for computer projects. (CL)

Author(s)	Holz, Else; And Others
Title	**Computer Assisted Instruction for Teaching Basic Money Handling Skills to Mentally Handicapped Students at Christine Meikle School in Calgary.**
Orig. Inst.	Alberta Dept. of Education, Edmonton. Planning and Research Branch.
Date/Pages	30 Apr 79 ; 44p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED212101**

Abstract

The study involving 32 trainable mentally handicapped students (7 to 20 years old) investigated the effectiveness of computer assisted instruction (CAI) in teaching the necesary arithmetic skills for handling small amounts of money. Equipment used consisted of a Cathode Ray Tube (CRT) terminal interfaced with a random access slide projector, and a hard copy teletype terminal. Courseware consisted of a series of computer programs organized into four models (numeral recognition, counting to 99, simple addition, coin recognition), each of which dealt with a concept necessary for successful handling of coins up to 99 cents. Although the modules followed a sequential developmental design, it was not necessary for a student to complete one module before advancing to the next. Results showed that while learning took place for both the study and control groups, the difference was statistically significant for the study group. (Author/SB)

Author(s)	Flaningam, Donalee
Title	**Computerized Aids for the Handicapped.**
Orig. Inst.	ERIC Clearinghouse on Handicapped and Gifted Children, Reston, Va.
Date/Pages	Sep 81 ; 21p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED210896**
Hard Copy	ERIC Clearinghouse on Handicapped and Gifted Children, The Council for Exceptional Children, 1920 Association Dr., Reston, VA 22091 ($1.00 while supply lasts).

Abstract

The report examines a variety of computerized aids and devices for individuals with visual, communication, or other disabilities, as well as ways computers may be used in the education and employment of handicapped individuals. Considered in the section on visual and hearing aids are talking meters, braille terminals, devices for reading standard print, auditory adjuncts, and diagnosis and therapy aids. Aids for the physically handicapped described include wheelchairs, environmental control devices, a worktable, and self feeding devices. Systems, computerized and manual, to improve communication for the speech impaired are briefly described, and include both scanner and direct selection types. Among uses of the computer in the education and employment of the handicapped discussed are simulation of laboratory experiments, remedial instruction, the use of the computer in the worker's home, and computer programing as a career for the handicapped. Identified are such recent improvements in computer applications as simplification of hardware, increased flexibility, and decreased costs. Identified weaknesses of current computer technology include portability, problems of maintenance, and the tendency to reduce microcomputer applications to one task problems. Appended is a list of resources including publications, organizations, and manufacturers. (DB)

Author(s) Weir, Sylvia
Title **The Evaluation and Cultivation of Spatial and Linguistic Abilities in Individuals with Cerebral Palsy. Artificial Intelligence Memo No. 570.**
Orig. Inst. Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.
Date/Pages Oct 79 ; 42p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED209789**
Abstract

The authors review their work on helping physicaly handicapped persons gain spatial cognition through the interactive graphics learning environment of a computer LOGO system. The findings are said to demonstrate that the LOGO tasks are a viable part of a school curriculum for students with cerebral palsy, as shown by severely/profoundly handicapped students 7 to 8, 11 to 13 and 17 years old. The LOGO system allowed the students a source of experience in visiospatial problem solving. Efforts to develop computer based methods of assessment are discussed. Possible reasons for demonstrated deficits in visiospatial functioning are noted to include lack of experience and the effects of brain damage. The system's role in studying linguistic problems and improving communication skills is considered, and future research topics are listed. (CL)

Author(s) Larson, Harry J.; And Others
Title **Analysis of Alternative Management Information Systems Appropriate for Special Education Application.**
Orig. Inst. Decision Development Corp., Walnut Creek, Calif.
Date/Pages 81 ; 75p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED208617**
Abstract

The report covers three interrelated studies which pertain to the utilization of computer based management information systems in reporting special education data to the state and federal governments. Two of the studies reflect certain aspects of actual computer use by California school districts and county offices of education, and the third study deals with the development of a data element dictionary based on special education reporting requirements reflected in state and federal report forms. Chapter 1 provides an introduction while Chapter 2 outlines procedures for each of the three studies. Results are reported in a third chapter and include such findings as that about two-thirds of the respondents reported computer availability through either ownership, rental, purchase of computer services, or a combination of these; and that districts currently without computer services do not have a positive view of the use of computers in education. Appended materials include sample survey forms, a copy of the Information System Opinionnaire, and record forms. (SB)

Author(s) Armstrong-Hugg, Robin L.; And Others
Title **A Behavior Rating Scale for Emotionally Disturbed Students: The Pupil Observation Scale.**
Date/Pages Apr 81 ; 25p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED204948**
Abstract

The paper describes development of the Pupil Observation Schedule (POS), a computer based system which provides a framework for assessing, evaluating, and reporting behavioral progress of emotionally disturbed students. The POS is used to rate five skill areas--computation, language, reading, reference, and psychomotor skills; and nine behavioral objectives--classroom conformity, task orientation, sense of self worth, self responsibility, emotional control, problem solving, acceptance of authority, respect of others, and social skills. The POS facilitates communication among the school, parent, student, and other professionals during each of four steps integral in developing the student's individualized educational plan (IEP): (1) as an assessment tool, (2) as a summary of ratings and other pertinent information to be presented in the decision making process, (3) as a guide for prioritizing IEP objectives, and (4) as useful information for developing feasible and appropriate individualized strategies. Once the POS is completed and primary needs determined, a process of validating the accuracy of identified needs should include utilization of a team approach, development of an inservice program, and consideration of the "whole child" concept. Appended are forms and sample computer printouts from the POS. (SB)

Author(s) Walker, Robert J.
Title **An Update on Computers in the Classroom.**
Date/Pages 80 ; 16p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED203849**
Abstract

There are several efforts today in the United States to explore and develop new educational applications for both the main frame computers and the microcomputers, especially in the development of instruction for the culturally disadvantaged and the handicapped. Recent developments for the visually impaired include using high speed braille-terminals connected to a central computer, and a talking calculator which uses synthesized speech to interpret keys pressed and results displayed. New technology for the hearing impaired includes a touch sensitive screen to take programs ranging from Spelling Bee to Calculator, and a video interactive device to teach lip reading skills. Computer assisted instruction, consisting mainly of drill and practice, has also been successfully used for the mentally handicapped and learning disabled children at the elementary and junior high school levels. Efforts to help the physically disabled have resulted in a speech synthesizer, and a graphic display screen used in conjunction with a hand-held pen. An additional function of the computer has been to diagnose and prescribe instruction for the handicapped, and to support individualized programs for emotionally disturbed students. Forty references are included. (Author/BK)

Author(s) Etlinger, Leonard E.; Ogletree, Earl J.
Title **Calculators and Microcomputers for Exceptional Children.**
Date/Pages 81 ; 9p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED202707**
Abstract

The potential of using calculators and microcomputers successfully with exceptional children is addressed. This document features specific devices and models when referring to applications of calculators in the classroom. For the exceptional or handicapped student, calculators are viewed as the "least restrictive" learning device; which are destined to become more prominent in the classroom. The microcomputer is viewed as a device of the future, which appears to have great potential for adaptability. Currently available software functions and innovative devices such as speech synthesizers are noted, but no particular brands or models are described. The document concludes with a list of five ways calculators and/or computers can benefit students. The reasons listed are: (1) reinforcing the basic skills; (2) helping in the basic skills of reasoning; (3) reinforcing problem solving ability; (4) promoting logical thinking; and (5) encouraging creativity. (MP)

Author(s) Ayers, George E.
Title **The Learner and the Computer.**
Date/Pages Oct 80 ; 9p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED201305**
Abstract

The revolution in computers begun in the mid 1950's will help education to meet the new challenges of the future generated by the predicted drastic declines in student enrollment and by changes in the types of learners served. Projects such as PLATO and TICCIT have proved that computers can provide useful and timely instruction for such learners as the disadvantaged, part-time adults, the handicapped, and school dropouts, groups which will comprise a large segment of the educational population in the future. Computers can present instruction in developmental skills at a variety of levels, as well as more complex models of simulation, inquiry, and dialogue. While the games industry has led in this direction, teachers themselves are now not only learning to program and develop courseware, but are also initiating regional and national resource networks for sharing materials. The computer can also provide instruction for the handicapped through special input and output devices designed to increase their communication skills. Increased use of computers in the home, as well as for instructional purposes, will result in increased motivation for all learners, especially those young people who are potential high school dropouts. (BK)

Author(s) Martin, Larry L.; And Others
Title **Model Development for A University-Based Learning Disability Clinic.**
Orig. Inst. Auburn Univ., Montgomery, Ala. Southeast Regional Resource Center.
Date/Pages 80 ; 319p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED201143**
Abstract

The report presents a model for appraisal and individualized educational programing for learning disabled children at the School of Education, Auburn University, Alabama. Descriptions by clinic staff of visitations to exemplary models and a summary of a regional conference on learning disabilities introduce the report. The clinic model is explained in terms of a definition of learning disability, theory (modified to be compatible for computer usage), and application (including three detailed case studies). Thirty-seven abilities were isolated and a battery of tests identified to provide multiple measures of each process area. Results were incorporated in a computer program designed to generate a profile of each student's strengths and weaknesses and to indicate conflicted test results. The case studies include a detailed summary of test results (in computer printout form) and a narrative profile which discusses the following areas: strengths, weaknesses, learning style, program implementation, recommendations for parents, and recommendations for school. The major portion of the document consists of 31 appendixes such as: a listing of advisory board members and duties, flow charts, parent letters, testing schedule, student intake form, and state definitions and placement procedures. (DB)

Author(s) Spring, Carl; Perry, Linda
Title **Computer-Assisted-Instruction in Word-Decoding for Educationally-Handicapped Children.**
Orig. Inst. San Juan Unified School District, Carmichael, Calif.
Date/Pages 80 ; 27p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED201075**
Abstract

A computer assisted instruction system for drilling educationally handicapped children in word decoding skills is described. A theoretical rationale for the objectives and design of the system, based on research from the psychology of reading literature, is discussed. In addition, certain system design constraints, applied in order to accommodate the possibility of future conversion of the system to an inexpensive, hand held device, are discussed. Results of a controlled field test of the system with 12 educationally handicapped elementary school children indicated significant word decoding improvement accompanied by high learner motivation which did not significantly decline during the 2 month training period. (DB)

Author(s) Brebner, Ann; Hallworth, H. J.
Title **A Multi-Media CAI Terminal Based upon a Microprocessor with Applications for the Handicapped.**
Date/Pages Apr 80 ; 10p.

Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED198791**
Abstract

The design of the CAI interface described is based on the microprocessor in order to meet three basic requirements for providing appropriate instruction to the developmentally handicapped: (1) portability, so that CAI can be taken into the customary learning environment; (2) reliability; and (3) flexibility, to permit use of new input and output devices as they are required and become available. The precise configuration of the terminal is determined by its use, and a number of special features are available, e.g., double size characters for use by the partially sighted, special graphic characters, animation, color, synthetic speech, and control of a random access slide projector. Input devices that may be used include a number pad, light pen, and touch sensitive display. Special devices for students with physical handicaps include the POSSUM apparatus, which may be controlled by a variety of binary switching devices, and the POSSUM Expanded Keyboard, both of which have been used by cerebral palsied students. Other special keyboards are designed to simplify the coding required for response, e.g., the "money" keyboard for social arithmetic problems. The terminal has also been developed into a stand-alone computer for use in areas without access to a host computer. (CHC)

Title **Mission of the Future. Proceedings of the Annual Convention of the Association for the Development of Computer-Based Instructional Systems. Volume II: Special Interest Groups (San Diego, California, February 27 to March 1, 1979).**
Orig. Inst. Association for the Development of Computer-based Instructional Systems.
Date/Pages Mar 79 ; 472p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED175448**
Hard Copy Western Washington University, Bellingham, Washington 98225 (3 Volumes, $30.00)
Abstract

The second of three volumes of papers presented at the 1979 ADCIS convention, this collection includes 37 papers presented to four special interest groups--computer based training, deaf education, elementary/secondary education/junior colleges, and health education. The eight papers on computer based training describe computer graphics, computer supported graphics, and simulations in military training; CBI in flight instruction; a new self-paced course on BASIC language programming; and CMI in vocational education. The ten papers scheduled for the educators of the deaf are concerned not only with projects for teaching language/communication and writing skills to the deaf, but with access to CAI for the blind and visually handicapped, and programs in special education. Projects described for the elementary/secondary/junior colleges group focused on curriculum development, classroom applications, CAI in special education, attitudes of high school students toward the computer, CMI in a large school system, a program for functionally illiterate adults, and a survey course in computer science in a community college. The health interest group heard nine papers on various aspects of medical training using CAI, simulations, computerized tests, and a set of computer self-evaluation units designed to accompany a physiology course. Some papers are illustrated with flow charts and diagrams and/or include brief bibliographies. (RAO)

Author(s) Madachy, James L.; Miller, J. Douglas
Title **The Role of CAI and Video Tapes as Instructional Supplements to an English Language Program for the Hearing Impaired.**
Date/Pages Mar 78 ; 7p.
Source(s)
Microfiche One month loan from DPI Library; ***Request:*** **ED160085**
Abstract

The creation and use of CAI and videotapes as methods for improving the English language skills of the hearing impaired during the past three and one half years at Gallaudet College are described. The first part of the paper discusses CAI as a working system within a total English language program; the second part discusses efforts to integrate CAI with videotapes as a means of increasing the effectiveness of English language instruction. Although some testing of these materials has been completed, the relationship between student exposure to these materials and overall improvement in English language skills needs to be researched and documented. (Author/VT)

Author(s)	Kearsley, Greg P.
Title	**Instructional Design Considerations of CAI for the Deaf.**
Date/Pages	Mar 78 ; 19p.
Source(s)	
Microfiche	One month loan from DPI Library; ***Request:*** **ED160084**

Abstract

Design considerations for instruction for the deaf are discussed in the context of a specific CAI program to teach deaf children from 10 to 15 years old in a vocational or pre-vocational stream how to use a ruler. This includes the task, learner, and means analysis involved in the development of the program. The virtues of CAI as a medium or methodology for instructional design are also considered; it is argued that the capability to provide individualized and interactive instruction, to explicitly state instructional strategies and logics, and to monitor the results of instruction makes CAI a premier choice as an instructional design tool. (Author/VT)

Journal Articles

The following journal articles may be obtained from your school IMC or public library.

Author(s) Angele, Thomas M.
Title **Educating Handicapped Students via Microcomputer/Videodisc Technology: A Conversation with Ron Thorkildsen**
Jour. Citation Education and Training of the Mentally Retarded; v16 n4 p264-69 Dec 1981
Abstract

In the interview, Ron Thorkildsen discusses his research and development project, and projects his ideas concerning the future of educating handicapped students via microcomputer/videodisc technology in general.

Author(s) Carman, Gary O.; Kosberg, Bernard
Title **Educational Technology Research: Computer Technology and the Education of Emotionally Handicapped Children**
Jour. Citation Educational Technology; v22 n2 p26-30 Feb 1982
Abstract

Reviews a study designed to determine the effects of providing special education teachers with computer programs to aid them in developing appropriate math education programs for their students. The experiment demonstrated that math learning rate could be accelerated, but not whether the accelerated rate could be maintained. Thirteen references are listed. (MER)

Author(s) May, Faye
Title **Computer Challenge: The Henry Taitt Story.**
Jour. Citation G/C/T; n20 p48,50 Nov-Dec 1981
Abstract

A physics professor and father of three gifted children started a summer enrichment math program featuring microcomputers. Computer Related Enriched and Technologically Inspired Viable Education (CREATIVE) was so successful that it was taught to neighboring teachers and expanded to other subjects and age groups. (CL)

Author(s) Lutz, John E.; Taylor, Patricia A.
Title **A Computerized Home-Based Curriculum for High-Risk Preschoolers.**
Jour. Citation AEDS Journal; v15 n1 p1-9 Fall 1981
Abstract

A pretest-posttest study investigated the use of computers in managing and delivering home-based curricula for handicapped and high-risk preschool children in the Central Susquehanna Intermediate Unit in Lewisburg, Pennsylvania. Results indicated the computer increased curriculum effectiveness in concept development, maternal interaction, and data management costs. (Author/RW)

Author(s) Howe, J. A.
Title **Computers Can Teach Where Others Fail.**
Jour. Citation Technological Horizons in Education; v8 n1 p44-45 Jan 1981
Abstract

Describes the use of computers in special education to provide new learning opportunities and better teaching strategies for handicapped students. Indicates that computers can teach cursive writing, test the effectiveness of a teaching method, and simulate systems such as tune-composing and sentence generating. (DC)

Author(s) Hannaford, Alonzo; Sloane, Eydie
Title **Microcomputers: Powerful Learning Tools with Proper Programming.**
Jour. Citation Teaching Exceptional Children; v14 n2 p54-57 Nov 1981
Abstract

The potential uses of microcomputers in special education are considered. Cautions are noted regarding selection of software which will meet learner/teacher needs, possess instructional integrity, and be technically adequate and usable. (CL)

Author(s) Grimes, Lynn
Title **Computers Are for Kids: Designing Software Programs to Avoid Problems of Learning.**
Jour. Citation Teaching Exceptional Children; v14 n2 p49-53 Nov 1981
Abstract

Procedures for programing computers to deal with handicapped students, problems in selective attention, visual discrimination, reaction time differences, short term memory, transfer and generalization, recognition of mistakes, and social skills are discussed. (CL)

Author(s) Vensel, George J.
Title **Changes in Attitudes of Preservice Special Educators toward Computers.**
Jour. Citation Teacher Education and Special Education; v4 n3 p40-43 Sum 1981
Abstract

Twenty-three preservice special education teachers were not generally favorable to the prospect of computers in the classroom, but a demonstration of a microcomputer system produced a large shift in their attitudes. (CL)

Author(s) Hofmeister, Alan M.; Thorkildsen, Ron J.
Title **Videodisc Technology and the Preparation of Special Education Teachers.**
Jour. Citation Teacher Education and Special Education; v4 n3 p34-39 Sum 1981
Abstract

The combination of microcomputer and videodisc will play an increased role in the education of special education teachers, making technology literacy essential for teacher educators. Sample goals of technology literacy include ability to integrate computerized teaching materials into a course and knowledge of sources for computer materials. (CL)

Author(s) Semmel, Melvyn I.; And Others
Title **Microgames: An Application of Microcomputers for Training Personnel Who Work with Handicapped Children.**
Jour. Citation Teacher Education and Special Education; v4 n3 p27-33 Sum 1981
Abstract

A behavior management simulation training system for special education teachers was carried out through microcomputers. Four software facets focused on the behavior game, feedback, computer assisted instruction, and computer guided implementation. (CL)

Author(s) Watkins, Marley W.; Webb, Cynthia
Title **Computer Assisted Instruction with Learning Disabled Students.**
Jour. Citation Educational Computer Magazine; v1 n3 p24-27 Sep-Oct 1981
Abstract

After reviewing previous findings on the effectiveness of computer assisted instruction (CAI), the authors report a study in which 28 learning disabled elementary students received math instruction on Apple microcomputers, while matched controls received traditional special education. Journal availability: P.O. Box 535, Cupertino, CA 95015. (SJL)

Author(s) Joiner, Lee Marvin; And Others
Title **Microcomputers: An Available Technology for Special Education.**
Jour. Citation Journal of Special Education Technology; v3 n2 p37-47 Win 1980
Abstract

The article describes the capabilities and features of basic microcomputer systems and describes special education applications: computer assisted instruction, prosthesis, testing, communication, and enhancing personal relations. Problems such as the availability of authoring languages, high quality educational software and computer safety are described. (Author)

Author(s) Hofstetter, Fred T.
Title **Computer-Based Aural Training: The GUIDO System.**
Jour. Citation Journal of Computer-Based Instruction; v7 n3 p84-92 Feb 1981
Abstract

Describes how the University of Delaware's Grade Units for Interactive Dictation (GUIDO) system is used to improve instructional delivery and educational research in aural skills development. Instruction consists of musical dictation exercises and there are five programs available in two modes--drill-and-practice and heuristic (discovery). (Author/MER)

Author(s) Singh, Nirbhay N.; Ahrens, Michael G.
Title **Individualized Educational Programming for the Mentally Retarded.**
Jour. Citation Exceptional Child; v27 n3 p159-67 Nov 1980
Abstract

The minimal components of a model which utilizes a computer for summarizing individual performance records for teaching educational skills to the mentally retarded are described. The most important components are assessment, individual and group programing, continuous data collection, and program evaluation. (Author)

Author(s) Kleiman, Glenn; And Others
Title **Microcomputers and Hyperactive Children.**
Jour. Citation Creative Computing; v7 n3 p93-94 Mar 1981
Abstract

Presented is research designed to find ways to capitalize on the potential benefits of computers for hyperactive and attention deficient children. The results indicated that children did almost twice as many problems on the computer as they did with paper and pencil. (MP)

Author(s) Hart, Bob; Staples, Ian
Title **Microcomputers in Special Schools.**
Jour. Citation Special Education: Forward Trends; v7 n4 p22-25 Dec 1980
Abstract

The author considers the value of microcomputers as a link between research and classroom teaching styles, and describes programs in which microcomputers are used with handicapped children. (SBH)

Author(s) Howe, Jim
Title **Computers: A Researcher's View.**
Jour. Citation Special Education: Forward Trends; v7 n4 p17-21 Dec 1980
Abstract

Sections address the activity of programing; the process of learning; the relationship between learning and communication; the benefits of computer based systems for teaching word attack skills to handicapped children; the use of computers to simulate a system; and cases in which computers were used with autistic, dyslexic, and learning disabled children. (SBH)

Author(s) Hope, Mary
Title **How Can Microcomputers Help?**
Jour. Citation Special Education: Forward Trends; v7 n4 p14-16 Dec 1980
Abstract

The author asks 16 questions regarding the use of microelectronics in special education. Areas addressed are the overall contribution of microelectronic aids; a framework for thinking about microelectronics in special education; teacher training, information, and equipment; communication aids; and priorities. (SBH)

Author(s) Arcanin, Jacob; Zawolkow, Geoffrey
Title **Microcomputers in the Service of Students and Teachers--Computer-Assisted Instruction at the California School for the Deaf: An Update.**
Jour. Citation American Annals of the Deaf; v125 n6 p807-13 Sep 1980
Abstract

A regional center has been established which focuses on training teachers to develop computerized lessons. The lessons are categorized and stored in a lesson library to which all teachers have access. (CL)

Author(s) Doorly, Ann
Title **Microcomputers for Gifted Microtots.**
Jour. Citation G/C/T; n14 p62-64 Sep-Oct 1980
Abstract

The use of microcomputers for mathematically gifted primary grade children is examined. Class activities are seen to include discussion of the development and types of computers, basic number operations, and actual programing. (CL)

DPI Consultants

This section contains the names and telephone numbers of several DPI consultants. There is a short description of the services each person provides, especially as those services relate to computer use. Their offices are all located at the Department address in Madison: 125 South Webster Street, P.O. Box 7841, Madison, WI 53707.

Name **New Position - To Be Filled**
Program Supervisor, Instructional Technology Emphasis: Microcomputer Utilization
Division for Library Services
Telephone Requests may be made through the bureau director at (608) 266-1965
Abstract

Provides consultation to schools, school districts and CESAs in curriculum development through use of computer applications for educational purposes. Includes the selection of microcomputer hardware and software in close cooperation with DPI subject specialists.

Name **Donald L. Chambers**
Program Supervisor, Mathematics
Division for Instructional Services
Telephone (608) 266-7712
Abstract

Provides consultation in mathematics curriculum and instructional strategies for grades K-12, including the use of computers for concept development, problem solving and drill and practice.

Name **Thomas Diener**
Program State Facilitator, National Diffusion Network
Division for Management and Budget
Telephone (608) 266-3560
Abstract

Helps school districts identify programs from the National Diffusion Network (NDN) for possible adoption. NDN programs include a wide range of subject and service areas in elementary secondary education. They include some computer oriented programs. The facilitator will provide information and assistance in planning, training and implementation of adopted programs.

Name **Ken McMahon**
Program Supervisor, Mentally Retarded
Division for Handicapped Children and Pupil Services
Telephone (608) 266-1785
Abstract

Supervises programs for the mentally retarded, and coordinates special education instructional materials centers services.

Name **Donald S. MacTaggert**
Program Consultant, Administrative Data Processing
Division for School Financial Resources
Telephone (608) 266-6968
Abstract

Provides consultation and leadership to schools, school districts, and CESAs in the utilization of data processing principles, identification of needs which lend themselves to the use of computer applications, development of comprehensive computer use plans, and the selection of computer hardware and software. The primary thrust of this position is administrative applications.

Name **Don Russell**
Program Education Information Services
Division for Management and Budget
Telephone (608) 266-1746
Abstract

Collects, processes and disseminates general statistical data about public and private schools in Wisconsin. Provides technical services to LEAs regarding appropriate use of computers.

Name **Michael J. Tokheim**
Program Supervisor, Business Education
Division for Instructional Services
Telephone (608) 267-9247
Abstract

Provides assistance to school districts with curriculum development, instructional methods, facility planning, staff inservice, program evaluation and federal project proposal development. Includes computer applications in business occupations. Works with teacher preparation, professional organizations, vocational educational long range planning, advisory groups and related agencies.

Organizations

The following organizations have goals and/or resources which can be helpful to educators using computers in instruction. To join these organizations, use their resources, or receive more information, contact the organizations directly.

Organization **Computing Educators of Wisconsin**
Contact Person DuWayne Kleinschmidt
Address 1200 West Wausau Ave.
Wausau, Wisconsin 55401
Telephone (414) 675-3351
Target Audience Computing educators.
Abstract

Computing Educators of Wisconsin is an organization devoted to furthering the instructional uses of computers in schools and promoting communication among computing educators. An organizational meeting was scheduled for fall 1982. Activities may include a newsletter and annual conference, and reduced rate subscription to "The Computing Teacher." (SS)

Organization **Milwaukee Educational Computing Association**
Contact Person Henry Kepner
Address UW - Milwaukee
369 Endris Hall
Milwaukee, Wisconsin 53201
Telephone (414) 963-4814
Target Audience Teachers and others interested in educational computing.
Abstract

The Milwaukee Educational Computing Association holds one meeting a month during the school year. The association was formed to help share information about computer uses in schools. Other purposes are to promote and catalog research on the use of computers in learning; to promote resource sharing among educational computer users; to help plan educational computer uses; and to prepare specifications for courseware, hardware, and related materials and equipment. Members can learn about elementary and middle school computer courses; LOGO and PASCAL; programing; rescuing damaged disks; graphics; microcomputer repair; grading programs; and construction and use of text files. (SS)

Materials Distribution Policy

Annual dues are $10.

Organization **Southern Wisconsin Instructional Computing Consortium**
Contact Person Mark Nelson; Melvin Bollom
Address 1300 Industrial Drive
Fennimore, Wisconsin 53809
Telephone (608) 822-3276
Target Audience Schools and school districts.
Abstract

The Southern Wisconsin Instructional Computing Consortium (SWICC) serves member schools interested in microcomputers. The consortium offers onsite and phone-in consultant support; equipment purchase and maintenance; evaluation of literature, programs and equipment; a newsletter; and sharing of hardware, software, and supporting documentation. SWICC receives MECC (Minnesota Educational Computing Consortium) materials, locally developed and other software, microcomputer magazines and newsletters, and software evaluations. (SS)

Resources

Newsletters, consultants, software library, and other services.

Materials Distribution Policy
Annual membership fee.
Publication List
Pamphlet and membership guidelines available free.

Organization **Technical Education Research Center**
Contact Person Daniel H. Watt
Address 8 Eliot Street
Cambridge, Massachusetts 02138
Telephone (617) 547-3890
Target Audience Teachers.

Abstract

The Computer Resource Center (CRC) of Technical Education Research Centers (TERC) houses microcomputer hardware, software, curricula, and information of interest to teachers. The CRC maintains representative computers, collects and evaluates educational software, and contains a library of technical and educational publications. CRC conducts one-and two-day workshops for educators on educational uses of microcomputers at TERC and schools in the New England area. (SS)

Resources

Workshops; an occasional newsletter; a library of hardware, software, curricula, technical and educational publications.

Materials Distribution Policy

Newsletter, "Hands On!," is free upon request.

Organization **Iowa Microcomputer Curriculum Project**
Contact Person Don Wiederanders
Cedar Falls, Iowa 50613
Telephone (319) 273-2548
Target Audience Secondary school teachers.

Abstract

The Iowa Microcomputer Curriculum Project (IMCP) acquires, creates and disseminates microcomputer software that is appropriate for classroom use, usable by non-technical teachers and students, and easily integrated into existing curricula. Currently most programs are in high school algebra and geometry and middle school mathematics. Other high school subjects are expected for the future. The IMCP receives, reviews and edits software written by teachers or others. Users of the programs are encouraged to send in their critiques, to be used in later revisions. IMCP has customers and program reviewers in 22 states and 5 provinces. The staff will give presentations and conferences as requested. (SS)

Resources

"The Micros in Mathematics Quarterly," and disks of curriculum-integrated microcomputer programs.

Materials Distribution Policy

A disk (6 to 8 programs) costs $15. Rates are negotiable for large agencies. The quarterly publication costs $4 per year ($3 if prepaid).

Publication List

Available computer programs are listed in "The Micros in Mathematics Quarterly" ($3 prepaid).

Organization **Wisconsin Instructional Computing Consortium**
Contact Person Mr. Rollie Hicks
Address 725 West Park Avenue
Chippewa Falls, Wisconsin 54729
Telephone (715) 723-0341
Target Audience Cooperative Educational Service Agencies, school districts, and other agencies.

Abstract

The Wisconsin Instructional Computing Consortium (WICC) was formed to provide quality microcomputer software and support to Wisconsin schools to help them plan and implement comprehensive instructional computing programs. There are five major goals: (1) to promote appropriate use of computer technology for the improvement of instruction, (2) to provide for the exchange of ideas, (3) to provide technical and consulting assistance, (4) to provide computer courseware libraries for selected microcomputers, and (5) to develop statewide purchasing arrangements for hardware and software products. The organization is composed of several state institutions that include public schools, the state education agency, Cooperative Educational Service Agencies, colleges and universities. (SS)

Organization **Educational Research Service**
Address 1800 North Kent Street
Arlington, Virginia 22209
Telephone (703) 243-2100
Target Audience School administrators and school boards.
Abstract

The Educational Research Service (ERS) is a nonprofit organization providing information for school management. Eight national associations of school administrators and school boards sponsor ERS as the research and information source for school management and policy decisions. Services include an on-call information service, a monthly bulletin, a report series, a local school budget analysis service, a management operations information bank, and a computer software information exchange. The software exchange enables administrators to share their experiences with software programs in their districts. (SS)

Resources

Monthly bulletin, report series, and information services.

Materials Distribution Policy

All services are available only as part of a district's or agency's annual order for ERS services.

Organization **Interactive Sciences, Incorporated**
Contact Person Jeff Levinsky
Address 1010 Harriet Street
Palo Alto, California 94301
Telephone (415) 326-5271; (415) 855-8259
Target Audience Teachers, administrators, elementary and secondary students, and senior citizens.
Abstract

Interactive Sciences Incorporated (I.S.I.) is a nonprofit corporation for research, development, and dissemination in the use of computers for education. I.S.I.'s Computer Tutor project uses children and senior citizens as tutors of fundamental computer programing. Parents, school staff and the general public are taught on weekends. A six-week summer institute prepares teachers and administrators to establish Computer Tutor centers in their own schools. I.S.I. is developing new materials for teaching advanced BASIC, PASCAL, and assembly language, and curriculum for word processing in language arts. Research is underway on microcomputer timesharing. BASIC programing language enhancements, teacher training methods, and computerized aids to reduce the cost of school management. (SS)

Resources

Word processing curricula and programing education materials are in production.

Publication List

A free list of reprints and brochures is available.

Organization **Minnesota Educational Computing Consortium (MECC)**
Contact Person Kenneth E. Brumbaugh
Address 2520 Broadway Drive
St. Paul, Minnesota 55113
Telephone (612) 376-1105
Target Audience Minnesota schools; also schools in adjoining states.
Abstract

The Minnesota Educational Computing Consortium (MECC) coordinates and provides computer services to students, teachers, and educational administrators, primarily in Minnesota. MECC provides Apple II and Atari microcomputer courseware, inservice training, and assistance. The bimonthly USERS newsletter lists available diskettes, support booklets, and programing and reference manuals. Other written materials are available from MECC's Documentation Center. (SS)

Resources

Books, pamphlets, diskettes, support manuals, newsletters, curriculum guides.

Materials Distribution Policy
Newsletters are free on request. Non-Minnesota customers pay a surcharge.

Publication List
A publication list is available free.

Organization **EPIE Institute**
P.O. Box 620
Stony Brook, New York 11790

Telephone (516) 246-8664

Target Audience Teachers, administrators, media specialists, curriculum specialists, and community representatives.

Abstract
The Educational Products Information Exchange (EPIE) Institute conducts research on the needs and priorities of educational consumers, and evaluates instructional materials and equipment, including microcomputer courseware and hardware. Subscriptions to evaluation papers on all major microcomputer hardware and all major software curriculum in packages are now available. Reports on competing educational products help schools select the products that best meet local needs. EPIE newsletters brief school staffs on the latest equipment and technology applications for education, and signal implications of legislative, executive and judicial actions. They also alert school consumers to inferior and unsafe products and questionable business practices. EPIE offers inservice training in materials selection, including microcomputer software, adaptable to the needs of each school district. (SS)

Resources
Quarterly reports on equipment and materials, two monthly newsletters, profiles of instructional materials, training.

Materials Distribution Policy
All resources are for sale.

Publication List
A free publication list is available.

Organization **Association for Computing Machinery (ACM)**

Address 1133 Avenue of the Americas
New York, New York 10036

Telephone (212) 265-6300

Target Audience Computer scientists, business system specialists, analysts, and social scientists interested in computing and data processing.

Abstract
The Association for Computing Machinery (ACM) is the world's largest educational and scientific society for computing professionals. The purpose of ACM is to advance the science and art of information processing, including, but not restricted to, computing techniques and appropriate language for general information and processing, storage, retrieval, transmission/communication, and simulation of data. ACM is a means for continuing education and employment opportunities, a forum for discussion, a platform from which to present new ideas and concepts, and a direct channel to information. Activities include committees, special interest groups, regional and national meetings, lectures and educational programs, and technical publications. A subcommittee on computers in schools issues a bulletin and slide show, and helps local chapters organize educational activities such as high school clubs. (SS)

Resources
Newsletters and other publications.

Materials Distribution Policy
Publications are discounted for members.

Organization **International Council for Computers in Education**

Contact Person David Moursund
Eugene, Oregon 97403

Telephone (503) 686-4408

Target Audience Elementary and secondary teachers and administrators.

Abstract

The International Council for Computers in Education (ICCE) is a nonprofit professional organization dedicated to improving the instructional use of computers. State, regional and special-interest organizations are members of ICCE. The council publishes booklets which introduce teachers and administrators to computers, and a journal, "The Computing Teacher." Articles address teaching with computers, teaching about computers, using computers for problem solving, and teacher education. (SS)

Resources

Instructional booklets, a journal, a software evaluation guide.

Materials Distribution Policy

Materials are for sale.

Publication List

A publications catalog is available.

Organization **Computer-Using Educators**
Contact Person Mrs. Bobby Goodson
P.O. Box 18547
San Jose, California 95158
Telephone (408) 288-7642
Target Audience Elementary, Secondary and college teachers, administrators and other educators.

Abstract

Computer-Using Educators (CUE) is a nonprofit corporation affiliated with the International Council for Computer Education. The purpose of CUE is to promote and improve computer use in schools and colleges. CUE has approximately 3000 members. Several major CUE conferences per year include field trips, workshops, curriculum sessions and commercial displays. CUE's newsletter contains articles, announcements, software evaluations and other items of interest to computer-using educators. SOFTSWAP, an educational software library and exchange, takes contributed programs from educators and organizes them onto disks which are sold for $10 each, with permission to copy and distribute freely. Commercial software is available for preview. (SS)

Resources

Newsletter, educational software.

Materials Distribution Policy

Institutional or personal membership fee, plus $10.00 cost per disk.

Publication List

Catalog of hundreds of computer programs available for $1.00 from Ann Lathrop, SMERC Library, San Mateo County Office of Education, 333 Main St., Redwood City, CA 94063.

Organization **Michigan Association for Computer Users in Learning**
Contact Person Larry Smith
Address c/o WCISD
P.O. Box 807
Wayne, Michigan 48184
Telephone (313) 326-9300
Target Audience Any employee of an educational institution or agency.

Abstract

The Michigan Association for Computer Users in Learning (MACUL) brings educators from all levels of the Michigan education system together to share their knowledge and concerns regarding instructional use of computers. A nonprofit corporation established in 1975, MACUL provides a forum in which teachers, administrators and computer technicians can benefit from each other's expertise. MACUL publishes a quarterly newsletter and reviews, surveys and analyses related to understanding computer technology and developing courseware and curriculum. Conferences and presentations highlight uses of computers and computer-related devices in the classroom. The association's objectives are: (1) to encourage and provide for dissemination of information related to computer uses in learning; (2) to assist in planning for computer uses in learning; (3) to prepare specifications for computer courseware, computer software, hardware and related peripheral equipment; (4) to promote and catalog research on the uses of computers in learning; (5) to reduce costs through group purchases; (6) to coordinate the development of courseware. (SS)

Resources

Books, pamphlets, curriculum guides, newsletter and journal.

Materials Distribution Policy
All items for sale at low purchase rates.
Publication List
Publication list free to members.

Organization **CONDUIT**
Contact Person Harold J. Peters
P.O. Box 388
Iowa City, Iowa 52244
Telephone (319) 353-5789
Target Audience College faculty, high schools, businesses, developers of computer-based instructional materials.
Abstract
CONDUIT is a nonprofit organization affiliated with the University of Iowa that distributes educational computer software. Most of the materials CONDUIT sells were created by college faculty for use with their students. All materials are reviewed and tested by educators and CONDUIT staff for their conceptual validity, instructional usefulness, program accuracy, and transferability to a wide range of computer systems. Programs are written in FORTRAN and BASIC, and for Atari, Apple, Commodore PET and TRS-80 microcomputers. Courseware packages include student manuals, instructor guides, and installation technical notes. Many of the programs were written for college science classes, though materials are available for sociology, political science, management science, humanities, and education. Some high school teachers have used CONDUIT programs. Instructional methods in the programs include data analysis, problem solving, drill and practice, and simulation. CONDUIT also develops author aids, programing standards, transfer guidelines, and evaluation tools. (SS)
Resources
Biannual magazine, author's guides, courseware.
Materials Distribution Policy
All materials are for sale.
Publication List
CONDUIT Catalogs of courseware packages are available free.

Organization **MicroSIFT**
Contact Person Donald C. Holznagel
Address 300 S.W. Sixth Avenue
Portland, Oregon 97204
Telephone (503) 248-6800
Target Audience Teachers of grades K-12.
Abstract
MicroSIFT (Microcomputer Software and Information for Teachers) is a clearinghouse for microcomputer instructional software information. MicroSIFT collects and disseminates descriptive and evaluative information about microcomputer applications in instruction and administration for K-12 education agencies. It conducts courseware evaluation through SIFTnet, a network of school districts and regional agencies, and disseminates the results through state and regional service centers and professional publications. It maintains Resources in Computer Education (RICE), a computer database of courseware information. The clearinghouse provides technical assistance to school districts by contract. (SS)
Resources
Newsletter, courseware evaluations, pamphlets, database.
Materials Distribution Policy
No loan or rental available.

Organization **CESA #9 Apple Support Service**
Contact Person John Konopacky
Address 1927 Main St.
Green Bay, Wisconsin 54302
Telephone (414) 497-3690
Target Audience School districts.

Abstract

CESA 9 Apple Support Consortium is a part of the Wisconsin Instructional Computing Consortium. For a subscription fee, school districts in Green Bay and surrounding areas can receive a number of services to help in implementing Apple microcomputers in the classrooms. The consortium office, at the Northeast Educational Processing Laboratory, offers onsite and phone-in consultant support (advice, information, and troubleshooting), system configuration and installation, and inservice training. Other support services the Consortium provides include a continuous literature review and market review, equipment evaluation, discount prices on bulk-bought equipment, resource manuals, software conversion to Apple, a diskette library, timesharing (includes use of Wisconsin Career Information System and 400 canned programs), access to Minnesota Education Computing Consortium (MECC) programs, and development of new programs to meet instructional objectives. (SS)

Resources

APPLE micro software, inservice training.

Materials Distribution Policy

MECC software is for sale. Most of the other software can be borrowed and copied. Membership subscription required.

Publication List

A list of services provided and a list of software available are free of charge.

Organization **Association for Educational Data Systems**
Contact Person Shirley Easterwood
Address 1201 16th St., N.W.
Washington, D.C. 20036
Telephone (202) 822-7845
Target Audience Teachers, administrators, data processing managers, and computing specialists.

Abstract

The Association for Educational Data Systems (AEDS) is a private nonprofit educational organization concerned with promoting the use of computers in school systems, colleges and universities. AEDS provides a forum for the exchange of ideas and information about educational technology. The association presents workshops and seminars on various topics which are adaptable for schools, particularly on computer literacy and instructional applications of microcomputers. Its general subjects of interest are the administrative use of computers in education, computer assisted instruction and computer managed instruction, selection and applications of computers, and software programs and sources. An annual international conference brings educational administrators together with research, manufacturing and commercial service organizations. (SS)

Resources

Books, periodicals, workshops, conventions.

Materials Distribution Policy

Publications are available for purchase, and periodicals are included with membership.

Publication List

A publications list is available free.

Organization **Educational Computer Consortium of Ohio**
Contact Person Ellen Richman
Address 4777 Farnhurst Rd.
Cleveland, Ohio 44124
Target Audience Teachers.

Abstract

The Educational Computer Consortium of Ohio (ECCO) is an outgrowth of a teacher center. ECCO began in response to teachers' requests for contacts with colleagues who were using microcomputers in their classrooms. Membership in ECCO includes access to an educational software library; a library of computer books, journals, and audiovisual materials; a newsletter, workshops, and an annual Educational Computer Fair. Membership is open to individuals, school districts, colleges and commercial organizations from all states and countries. (SS)

Resources

Books, pamphlets, curriculum guides, filmstrips, audiocassettes, transparencies, software, and more.

Materials Distribution Policy

Books, journals, and audiovisual aids on loan; commercial software to preview; public domain software to copy.

Publication List
Free lists of software and publications.

Organization **Association for the Development of Computer-Based Instructional Systems**
Contact Person Gordon P. Hayes
Address Miller Hall 409, Western Washington University
Bellingham, Washington 98225
Telephone (206) 676-2860
Target Audience Teachers, trainers, engineers, programmers and others working with instructional technology.

Abstract

ADCIS is an international, nonprofit association of professionals involved in computer based instruction. Its purposes are to: (1) advance the study and use of computer based instruction and computer managed instruction; (2) promote and facilitate exchange of information, programs, and materials; (3) reduce redundant effort among developers; and (4) specify requirements and priorities for hardware and software development, and encourage and facilitate their realization. Through conferences, workshops, local chapters, twelve special interest groups, and publications, the association informs its members of new computer based instructional systems, techniques and materials. The special interest groups, which publish their own newsletters or reports, include PLATO, mini-micro computers, professional health education, home economics instruction, music instruction, mathematics education, IBM Interactive Instructional System, education of the handicapped, training in business and industry, and elementary-secondary-junior college education. (SS)

Resources

Quarterly journal, bimonthly newsletter, annual conference proceedings.

Materials Distribution Policy

Journal and newsletter are free to members. Conference proceedings are for sale.

Organization **Wisconsin Mathematics Council**
Contact Person Barbara Junghans
Address Homestead High School
500 West Mequon Street
Mequon, Wisconsin 53092
Telephone (414) 242-2400
Target Audience Mathematics teachers and colleges of education.

Abstract

The Wisconsin Mathematics Council (WMC) is a professional organization of teachers of mathematics dedicated to the improvement of mathematics and computer science education. Six publications on mathematics education are sent annually to members throughout the state. Annual fall and spring meetings on a complete range of mathematics and computer education topics are held. Many of the councils activities focus on computer related skills and ideas. Knowledgeable members in most areas of mathematics education are available for presentations, in-service work, and consultantships. (GAW)

Resources

Books, pamphlets, presentations, and consultantships.

Materials Distribution Policy

"The Wisconsin Teacher of Mathematics" and the "WMC Newsletter" are available with membership. Materials developed by WMC members are available through DPI. Materials developed by the National Council of Teachers of Mathematics are available for purchase.

Publication List

A National Council of Teachers of Mathematics publications list is available.

Organization **National Council of Teachers of Mathematics**
Contact Person James D. Gates
Address 1960 Association Drive
Reston, Virginia 22091
Telephone (703) 620-9840
Target Audience Mathematics teachers and colleges of education.

Abstract

The National Council of Teachers of Mathematics is a professional organization of teachers dedicated to the improvement of mathematics instruction at all levels. It accomplishes this through publications, national conventions, geographic affiliated groups, and a teacher/learning center. The teacher/learning center includes a library, displays of instructional materials, and is open at Council headquarters Monday through Friday. (GAW)

Resources

Several periodicals and newsletters are published. General publications with topics ranging from teaching methods and study techniques to tests and contests, computer-assisted instruction and teaching aids.

Materials Distribution Policy

"Mathematics Teacher" or "Arithmetic Teacher" and NCTM Newsletter available as part of membership. Additional periodicals are sold at reduced fees and all other NCTM publications are sold at 20 percent discount to members.

Publication List

A current publications list is available free of charge.

Magazines/Newsletters/Databases

This section contains an annotated list of selected magazines, newsletters and one automated database dealing with instructional computing. Publishing information is included with each entry.

Title **AEDS Monitor**
Publ./Price 1201 Sixteenth St. N.W., Washington, DC 20036. 4 issues/yr., $15.00
Abstract

This publication addresses issues, ideas and information about relationships between modern technology and modern education. Although it covers both timesharing and microcomputers, micros account for a majority of the articles. There is also an emphasis on software selection and evaluation. This is a fine journal for teachers regardless of their computer proficiency. It is professional both in appearance and content.

Title **Classroom Computer News**
Publ./Price International Educators, 51 Spring Street, Watertown, MA 02172. 6 issues/yr., $15.00.
Abstract

A magazine for teachers, educators, and anyone else who is interested in the role and uses of computers in classrooms. Articles are oriented toward issues in educational computing. However, articles also investigate implementation of computers and software in math and reading. Features include an opinion section, math/science department, in-class activities, administration, and media. This in a non-technical publication with professional content.

Title **Compute!**
Publ./Price 515 Abott Drive, Broomall, PA 19008. 12 issues/yr., $20.00
Abstract

A general interest journal that frequently targets Commodore PET and VIC programs and applications. More recently ATARI and APPLE have been included. Compute! is a very readable and applicable magazine that features a monthly Education and Recreation section as well as current hardware and software reviews. This journal is helpful for teachers who have a VIC or a PET in their classroom and who are dabbling in typing in published programs. Several Compute! features are excellent for anyone who is excited about children and computers. This is a sophisticated journal with content that is appropriate for both entry level and veteran computer users.

Title **Computer Using Educators (CUE) Newsletter**
Publ./Price 127 O'Connor ST., Menlo Park, CA 94025. 6 issues/yr.
Abstract

This newsletter depends heavily on input from readership including computer related events, announcements, letters, opinions, anecdotes, teaching and curriculum ideas, hardware, software reviews, and almost anything else that is related to computer educators. CUE also serves as an outlet for information assembled by SOFTSWAP (a cooperative effort on the part of CUE and the San Mateo County office of education). Educators can obtain copies of public access software by supplying a new program to SOFTSWAP or a blank disk. The CUE newsletter has a wealth of practical information that can be implemented by the classroom teacher.

Title **ComputerTown USA! Bulletin**
Publ./Price P.O. Box E, Menlo Park, CA 94025. 6 issues/yr., $15.00.
Abstract

ComputerTown USA is a computer literacy project of the people of Menlo Park CA. The bulletin consistently provides many leads to organizations, software, publications, computer innovations, and grants that relate directly to microcomputing and computer literacy. The CTU Bulletin frequently features information relating directly to school instruction that may be of interest to teachers. This newsletter is valuable to teachers who like to write for more information and who enjoy contacting other people about computing and computer literacy.

Title **Creative Computing**
Publ./Price P.O. Box 789-M, Morriston, NJ 07960. 12 issues/yr., $20.00.
Abstract

A well established magazine that caters to general computer applications and software. Betsey Staples and Don Piele are regular contributors of child and education oriented articles. Program listings, software (games, business, and education) descriptions and reviews, legal issues, and hardware evaluations are regular features. This publication is highly recommended for teachers who are interested in a broad exposure to personal computing that is not offered by the educational computing magazines. Creative Computing offers exposure to a variety of computing applications, including education without being overly technical.

Title **The Computing Teacher**
Publ./Price International Council for Computers in Education, ICCE, Department of Computer and Information Science, University of Oregon, Eugene, OR 97403. 7 issues/yr., $14.50.
Abstract

An excellent educational computing magazine for teachers who are just beginning to use computers as well as those with more computer experience. This publication emphasizes the teacher's role in educational computing. Articles explore teacher and student computer literacy, interactive computer assisted instruction, programming, and computer inservice for teachers. Features include software reviews, computer film reviews, regular uses of computers in Arts, Humanities, and English. The Computing Teacher is a very understandable resource for teachers using computers.

Title **Educational Computer**
Publ./Price P.O. Box 535, Cupertino, CA 95015. 12 issues/yr., $49.00.
Abstract

A slightly technical magazine oriented toward administrators and teachers. This publication addresses the interests and concerns of people who have an active role in computer implementation in schools and school districts. Individual articles cover topics such as software implementation, hardware and software considerations prior to purchase, and reviews of educational languages and programs. This is a fine publication but perhaps not the first choice for regular reading for most computing teachers.

Title **The Journal of Computers in Mathematics and Science**
Publ./Price Association for Computers in Mathematics and Science Teaching, P.O. Box 4455, Austin, TX 78765. 4 issues/yr., $7.00.
Abstract

An academic style journal that features research articles about computers in mathematics and science curriculum from several perspectives. Articles explore curriculum design and implementation, as well as social and historical perspectives. This journal is oriented toward high school teachers with a special interest in mathematics and science. It is most useful as a source for an occasional article rather than as regular monthly reading material.

Title **On Wisconsin Computing**
Publ./Price Wisconsin Center for Education Research, 1025 West Johnson Street, Rm. 785, Madison, WI 53706. 4 issues/yr, free.
Abstract

This newsletter highlights people and their activities in instructional computing. Section headings reflect this emphasis. "Peeks Around the Nation" provides brief glimpses about computing activities in other states. "Computing Educators in Action" focuses on people and their activities in Wisconsin schools. "Main Line" presents information on meetings, organizations, etc. "Needed: Bytes of Information" provides a column for readers to use to request help from others in solving computer problems. "Wisconsin Center Activities" provides information about activities at the center. This newsletter is a good vehicle for educators who share the same computing interests.

Title **Popular Computing**
Publ./Price P.O. Box 307, Morriston, NJ 08836. 12 issues/yr., $15.00.
Abstract

A general applications computer magazine that offers articles on hardware, software, peripherals, and programming that are very accessible to novice and intermediate computing teachers. Popular Computing usually features at least one educational computing article each month. In addition, there is a regular feature called My Computer Likes Me, which gives simple music and art programs and ideas for young children and teachers. The Tutorial and Department features are also of interest to individuals who are involved in classroom computer implementation.

Title **School Microware Directory**
Publ./Price Dresden Associates, P. O. Box 246, Dresden, ME 04342. 2 issues/yr., $25.00.
Abstract

This directory listed over 1,800 software products in the fall of 1982. Educational software for four microcomputers are included: Apple, Atari, PET and TRS-80. The software is listed separaretly by subject, grade level and hardware system. It also includes an alphabetical index by program title. This is a companion publication to School Microware Reviews. A reduced price is available to those who subscribe to both publications.

Title **School Microware Reviews**
Publ./Price Dresden Associates, P. O. Box 246, Dresden, ME 04342. 2 issues/yr., $20.00 ea. or $35.00/2
Abstract

These reviews are all submitted to the publisher by educators who are using microcomputers for instruction. Reviews use an evaluation form developed by the publisher which includes consideration of written materials, user instructions, and student computer interactions. The publication also includes a large listing (582 citations in 1981) of published reviews of instructional software. Educators who write reviews receive a reduction in subscription rate.

Title **Softside**
Publ./Price Softside Publications, 6 South St., Milford NH 03055. 122 issues/yr., $30.00.
Abstract

An excellent magazine for teachers with a programming and gaming bent. Articles, reviews, games and other programs for Apple II, TRS-80 and Atari are published each month. The feature section generally includes at least one education related article. The cover story is also frequently related to education. Probably not appropriate for teachers who are only interested in instructional computing.

Title **Software Review**
Publ./Price Meckler Publishing, 520 Rivershde Ave., Westport, CT 06880. 4 issues/yr., $58.00.
Abstract

This is a new publication which features articles about developments in software design, selection criteria and available software products for educators and librarians. A list is included of software developed by library and educational organizations. Its coverage is not limited to microcomputers, but includes software for mainframe and minicomputers also. Another feature is a book review section of publications dealing with software.

Title **USERS: The MECC Instructional Computing Newsletter**
Publ./Price 2520 Broadway Dr., St. Paul, MN 55113. 12 issues/yr., Available on request.
Abstract

A MECC user oriented newsletter features reviews of software, firmware and hardware. Listings and prices of updated MECC software are also provided. The newsletter has begun a new feature that is a users bulletin board. This service provides the names and addresses of people who have expertise to share or who need consulting and information. Classes, member services and conferences are also announced each month. This newsletter is probably most helpful to teachers who live in the Wisconsin-Minnesota area or who have access to MECC software and services.

Title **RICE (Resources in Computer Education)**
Publ./Price BRS, 1200 Route 7, Latham, NY 12110. Cost based on amount of online use.
Abstract

RICE is a new online database which contains information about microcomputer use in elementary and secondary education. This online database will be available from BRS in September of 1982. There is no print counterpart. At this time, RICE contains information on 2,000 courseware items and 150 producers or developers of software. During 1983 information will be added in the following three catagories: (1) computer literacy objectives and test items, (2) a project register with descriptions of K-12 computer applications, and (3) an inventory containing information about hardware installation in schools. This database is being developed by the Northwest Regional Educational Laboratory (NWREL). Schools and organizations gain access through BRS. Searches of the database can also be obtained through the Wisconsin Dissemination Project.